

M E D I C A L
AND
PHILOSOPHICAL
COMMENTARIES.

By a SOCIETY in EDINBURGH.

Natura munera sua non simul tradit; nec omnibus patent: Reducta sunt, et in interiori sacrario clausa; ex quibus aliud hæc ætas, aliud postera accipit, et depromit.

SENECA.

VOLUME THIRD.

PART I.

L O N D O N :

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M D C A L

PHILOSOPHICAL
COMMENTARIES

By Society in London.

For the purpose of illustrating the principles of natural philosophy, and of showing the application of the mathematical sciences to the study of nature.

VOLUME THIRD

PART I



Printed for J. Murray, Stationer, in Pall Mall.
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M D C C L X V I

As a Testimony of Gratitude and Esteem,

This Volume of the

MEDICAL COMMENTARIES

IS HUMBLY INSCRIBED TO

WILLIAM FULLERTON, Esq;

Of CARSTAIRS;

By his

Most obedient Servants,

The AUTHORS.

Non possidentem multa vocaveris

Recte beatum: Rectius occupat

Nomen beati qui deorum

Muneribus sapienter uti

—callet.

HORAT.

As a Test of the

The Volume of the

MEDICAL COLLEGE

IS HEREBY REFERRED TO

WILLIAM FULLERTON, Esq;

OF GLASGOW

By

Most obedient Servant,

The Author,

His position in the country

He is believed to be a

Man of great power

Man of great power

Heart

Call

P R E F A C E.

AFTER the publication of two volumes, we may reasonably presume, that none of our readers are unacquainted with the nature and intention of this Work. They have even sufficient grounds for determining how far it is fitted to answer the purpose for which it was undertaken. And they will, we doubt not, have discovered many errors in the execution of it. But we may venture to assert, that none of them are more sensible of its imperfections, than we ourselves are.

We mean not, however, to insinuate that our labours are void of utility. We have, it is true, undertaken a task, to which, from the present state of science in general, and from the almost innumerable channels by which Medical and Philosophical discoveries are now communicated to the public, our abilities are unequal. But, from these very circumstances, till greater industry and superior judgment be employed in the execution

of a similar plan, this work, if conducted with impartiality and attention, must be extensively useful. As we presume not to set up our own judgment for a standard of truth, we are but little exposed to the charge of partiality. And, although it becomes us not to speak of the discernment which may appear in the execution of this work, yet we are conscious of the labour which has been bestowed upon it. Upon this score, we cannot help thinking, that we have some claim to merit.

It is, we presume, unnecessary for us to promise, that the same industry, which has formerly been exerted, shall hereafter be continued. In this particular, our own interest is inseparably connected with that of our readers. It shall always be our endeavour that each number appear at the stated periods which were formerly mentioned. But, from the concurrence of several circumstances, especially the absence of Dr Hamilton, and the appointment of Dr Duncan to teach, for this winter, the Institutions of Medicine in the university of Edinburgh, and to give a part of the Clinical Lectures in the royal Infirmary there, the publication of our next number must necessarily

necessarily be delayed for a longer interval than usual.

It may be expected, that we should take this opportunity of publicly returning thanks to those gentlemen who have supplied us with original observations, and medical news. But they have already received acknowledgements, though more private, yet not less sincere. And to those, whose good intentions have favoured us with materials which could not be admitted, we hope, we have assigned satisfactory reasons for our conduct.

We imagine it would be superfluous to say any thing, with a view of instigating the attentive and humane to lend their aid to a work which is intended for the public good. While, therefore, we have reason to hope for the continuance of favours from our former correspondents, we flatter ourselves we may likewise expect the assistance of others. And there are few careful observers, whose practice will not, at times, present them with interesting and unknown facts.

M E D I C A L
C O M M E N T A R I E S.

S E C T. I.

An Account of Books.

I.

Cornelii Pereboom, *Med. Doct. Academ. Natur.
Curios. Sod. De Paralyfi imprimis Nervea
Dissertatio.* 8vo, Hornae.

THE author of this dissertation is already well known to the learned world, by many former publications. The index which he compiled to the edition of Dr Boerhaave's *Methodus Studii Medici*, published by Dr Haller, will be a lasting monument of his industry. And, in the present work, our readers have a specimen of his abilities in the theory and practice of medicine.

After

After some general observations on the structure of the nerves, which he confirms by the authority of anatomists of great credit, he observes, that some nerves are entirely subservient to the purposes of sense ; others lead to organs fitted for motion ; but, whether these be universally sensible or not, he does not pretend to determine. He quotes, from Boerhaave and Haller, instances where particular nerves have been entirely destroyed by disease, without any pain. But, whether they have any degree of sense or not, he thinks it at least evident, that, in their natural state, they are insensible to the ordinary actions of the human body. And he is, upon the whole, inclined to adopt the opinion of Heister, that, from a diseased state of some nerves, there will arise a loss of motion ; and, of others, a want of sensibility.

Having premised these remarks, he defines palsy, a diseased state of any part of the human system, in which sensibility or mobility organically fail. He terms palsy an *organic failure*, with a view of distinguishing it from mechanical defects. He objects to the definition of those who have fixed upon a laxity of parts as a diagnostic sign of palsy ; because, he maintains, that this disease
fre-

frequently arises from schirrus of the muscles or from sarcoma.

He subdivides the genus Palsy into three species, the Nervous, the Muscular, and the Nerveo-muscular. By the nervous, he means that state of the disease, where there is a depravation of sense, without loss of motion ; by the muscular, a loss of motion, while sensibility remains ; and, by the nerveo-muscular, an affection both of sense and motion. He observes, that authors have divided palsy into the perfect and imperfect. In the one case, sense, or motion, or both, are entirely obliterated ; in the other, they are only diminished.

Having pointed out these different species of palsy, the author next presents us with some remarks on their causes, and chiefly on those which induce what he terms the *nervous palsy*. This last species may, he observes, be induced by every cause interrupting the connexion between the sensorium and the papillae at the extremities of nerves. Among others, he enumerates compression, callosity of the skin, sphacelus, plethora, morbid acrimony, particularly of the scorbutic kind. In proof of this last cause, he relates two cases, and adduces several observations from different practical authors. Another class of causes,

ses, besides those arising from compression, are such as may be referred to the consent of nerves. To this head, he refers palsy from worms, from terror, and from other similar affections of the mind. The last set of causes are those from inanition; to this, he ascribes the palsy occurring in old age, from acute diseases, from phthisis pulmonalis, and other similar circumstances, by which patients are much exhausted.

In the second part of this dissertation, the author treats of the cure of nervous palsy. He observes, that this is a disease which admits not of the removal of symptoms, or of a palliative cure; that the only method affording relief is by the removal of the cause; and that those palsies only are curable, where the cause is of such a nature that it can be removed.

For the removal of some obstructions producing palsy, he lays it down, as an indication, that the stagnating matter should be discharged. With this view, he proposes exciting evacuation by the skin; and this, he observes, may be effected, by drinking large quantities of diluting liquors, and fomenting with the vapour arising from burning spirits. Another means of exciting
sweat,

sweat, which he has found very successful in his own practice is, the use of the decoction of guaiac.

This he recommends to the quantity of a pound every day, together with frictions of the affected part, with the following liniment. ℞ Sal. Tartar.

3 vi. Sap. Venet. 3 i. dissolv. in Aq. tepid. 3 x.

Deinde admisce Ol. Terebinth. 3 iss. Spt juniper.

3 i. Ol. cajaput. 3 ii. M. f. a.

Another mode of evacuation, which has been found serviceable in palsy is, by the belly. With this intention, the author recommends rhubarb, to the quantity of a scruple, or half a dram, every second day. In cases of plethora, he found blood-letting of great utility; but he has observed it to do manifest mischief, in that species of nervous palsy arising from scurvy. To these evacuants, he proposes that medicines correcting, attenuating, and resolving viscid humours, should be conjoined. For this purpose, he advises the spiritus cochleariac, and spiritus salis ammoniaci. In cases where there is any obstruction to the circulation on the surface of the body, which can be removed by relaxation, he proposes warm bathing, conjoining with it wine and Peruvian bark to strengthen the system. Where, on the other hand, there is too great laxity, he observes, that

that cold bathing has been much recommended, and that it has been found particularly useful to expose the affected part to a fall of water. Much benefit, he affirms, may often be reaped from a temporary fever ; and, upon this principle, he explains the action of scarification, cupping, blisters, whipping with nettles, &c. But the remedies which he believes to be of all others the most powerful in this disease, are frictions and electricity. In proof of their efficacy, he quotes a great number of cases related by different practical authors, in which they have proved successful. With regard to the use of electricity, he observes, that, when the matter compressing the nerves is impacted in their blood-vessels, slight shocks only should be given, lest, the vessels being burst, an ecchymosis should be formed, giving a still stronger compression. But, when the obstructing matter is lodged in the cellular substance surrounding the nerves, violent shocks are necessary, that absorption may be more effectually promoted.

When a nervous palsy proceeds from inanition, induced by old age, little benefit can be expected from medicines. When it happens from
long

long continued diseases, it is to be removed by nutrient and restorative medicines.

II.

Dissertatio Medica de Dulcamara. Auctore Georgio Hallenberg. 4to, Upsaliae.

AFTER some general observations on the improvement which medicine has lately received, on the defects under which it still labours, and on the causes of these imperfections, which our author refers to three heads, the subtilty of physiology, the defects of pathology, and the neglect of the materia medica, he proceeds to treat more particularly of the night-shade. He introduces his subject, by narrating the various names that have been assigned to this plant by different authors. To this he subjoins a particular description of the dulcamara, which, he observes, is the *solanum dulcamara caule inermi, frutescente, flexuoso, foliis superioribus hastatis, racemis cymosis*, of Linnaeus.

Mr Hallenberg affirms, that the whole genus of *solanum*, in its natural state, contains something

thing adverse to nature, although he allows that some species of it, when dressed, may be eat with safety. The parts of the plant which he proposes for use are the stalks, throwing aside the root, leaves, flowers, and berries. The taste of these stalks is a mixture of sweet and bitter. Upon a very slight decoction, they yield a sweet tasted liquor; but, if the boiling be continued, it loses this sweetness, and acquires a bitter taste.

The stalks, both in powder and decoction, evidently possess the qualities of the plant; although they have a much slighter degree of virulence than the other parts of it. He advises that the stalks be gathered either early in the spring, or in the end of autumn, when the leaves are void both of smell and taste. The form in which he recommends its being used is that of decoction. He directs, that, upon two drams of the stalks, dried and sliced, a pint of boiling water should be poured, which, after standing at rest for half an hour, must be put upon the fire, till it boil for the eighth part of an hour. By this method of preparation, he affirms, that its medical virtues are best extracted. When a patient first begins the use of this medicine, he advises, that a little milk should be mixed with it. Two tea-cupfuls of this decoction

coction are to be taken morning and evening ; and, after it has been used for three or four days, the stomachs of most patients will bear a stronger decoction, without sickness or any other inconvenience, although no milk be added to it.

After these observations on the method of preparing and using the night-shade, the author next proceeds to treat of its use in medicine. He is of opinion, that there are few medicines in the *materia medica* better fitted for purifying the general mass of fluids, by different evacuations, particularly by diuresis. He has, himself, frequently employed it with success, in violent ischiatic and rheumatic pains. In proof of its efficacy in jaundice, he cites the authority of Tragus, Vieri, and Rothmann ; and its success in scurvy has been confirmed by Linnaeus and Sauvages. Besides these diseases, he further recommends it as useful against suppressed menstrua, and lochia, contusions, itch, and lues venerea. The good effects, which may be obtained from it in this last disease, he endeavours to confirm, by narrating a case which fell under the management of Linnaeus. He concludes with observing, that, from the active powers it possesses, it is probable it may be used with advantage in many other diseases.

III.

Dissertatio Medica de Stramonii Ufu in Morbis Convulsivis. Auctore Adolph. Fried. Wedenberg. 4to, Upsaliae.

AS an introduction to this dissertation, the author mentions the opinions entertained with regard to Stramonium, by many eminent writers. They all agree, that it possesses strong narcotic powers, inducing sleep, and, on some occasions, disturbing the mind, so far as to excite madness, remaining afterwards for life. Kempfer, and Prosper Alpinus mention, that the Turks and Indians, who are prohibited from wine, use it with a view of exhilarating. They allow, however, that, when exhibited in more considerable doses, it excites vertigo, madness, and profound sleep.

But, however deleterious stramonium may be, when imprudently exhibited, if given with proper caution, its use is attended with the best effects. To investigate the principles upon which its activity depends, the author made the following trials. Upon ten drams of the extract

of

of stramonium dried by a gentle heat, and reduced to a powder, he powdered a quantity of rectified spirit of wine, and allowed it to digest for some days. Having decanted the solution, which was green, he put upon the residuum a fresh quantity of spirit of wine; and repeated this process, till the spirit acquired no tinge from it. These solutions, being all mixed together, were evaporated to dryness, by a gentle heat. While this was performing, a heavy nauseous odor exhaled from the liquor. Four scruples and a half of resinous extract were obtained.

The matter which remained after the spirituous solutions were made, was treated in the same manner by warm water, as it had formerly been by spirit of wine. And all the watery solutions being mixed, and evaporated to dryness, three drams and one scruple of gummy extract were obtained.

What remained of the original mass, after these solutions, was neither gummy nor resinous, but an inert, insipid earth, of a grayish colour. From these trials, Mr Wedenberg concludes, that, besides resinous and gummy parts, stramonium contains also a volatile ill-smelling matter, part of which is exhaled, during the evaporation; but

that part of it remains both with the resinous and gummy extract, is evident from their smell and taste. From dissolving the watery extract, evaporating it to a certain degree, and afterwards placing it in a cold situation, it further appears, that stramonium contains saline particles, which, from their detonation in the fire, the author concludes to be nitrous. He observes, however, that he could not, upon every trial, obtain this saline matter.

After these observations on the principles which stramonium contains, Mr Wedenberg proceeds to give a physiological explanation of its action. The first effects it produces, which are of a sedative nature, he ascribes to its volatile principle acting upon the nerves of the stomach. From the gummy and resinous parts conjoined with this volatile principle, acting upon the intestines, he supposes that the whole intestinal canal is thrown into unusual contractions, which necessarily produces a quickened circulation. To this cause he refers all the augmented excretions, as copious sweating, increased flow of urine, looseness, and haemorrhagies, which stramonium will sometimes occasion. And, in cases when a larger

ger dose is given, he supposes that a rupture of some of the tender vessels in the brain, from the accelerated circulation, produces the vertigo, apoplexy, convulsions, palsy, and other fatal symptoms.

After these observations on the operation of stramonium, the author thinks it necessary, before considering its use in convulsive diseases, to give some general idea of convulsions. He divides them into tonic or clonic, universal or partial, primary or symptomatic. The causes from which they proceed, he refers to three general heads, Repletion, Inanition, and Irritation. To the first head, he refers plethora, inflammatory and exanthematic fevers, suppressed evacuations, &c. To the second, he refers excessive looseness, intense study, great fatigue, and hunger. And to the third, passions of the mind, injuries to nerves from external causes, dentition, titillation, and a variety of other similar causes. In proof that convulsions have, at different times, arisen from each of these causes, he produces the authority of some eminent practitioner.

From considering the operation of stramonium, and the cause of convulsions, Mr Wedenberg

concludes, that it will be of use, when the disease arises from saburra in the intestines, universal depravity of the humours, the suppression of usual evacuations, or slight obstructions of the intestines without schirrus. To confirm this account, he subjoins the histories of four cases, in which he employed it with success.

The first case is that of a lady, unmarried, and about twenty-two years of age, who, for the space of three months, was almost every day affected with convulsions, sometimes violent, sometimes slight, which began with a fever and faintings. As she was troubled with ascarides, Mr Wedenberg imagined they might proceed from that cause, and ordered anthelmintics, but without any good effect. He then thought of trying the stramonium; but, as his patient was plethoric, he premised a bleeding, and the use of some nitrous and diluent medicines. He then began her with pills of the stramonium, of two grains each, one of which was taken thrice every day. The dose was afterwards gradually increased, till she took eight pills in the day. By this means, her convulsions were greatly mitigated, so that nothing almost remained but slight faintings. This dose of pills was continued till the fortieth day, by which time
her

her sleep became more quiet, her appetite was improved; and her convulsive complaints entirely ceased.

The second case is that of a young woman, twenty-two years of age, who, for the space of four weeks, had been affected with faintings, without convulsions. After that, she was, for three weeks, distressed with violent convulsions. She then began the use of the stramonium in pills, of two grains, three times every day. She was at the same time ordered nitrous powders, to be taken frequently, and the warm bath every third day. The dose of the stramonium was increased to six pills every day, which operated both by sweat and stool. By continuing the medicine for some time, she was perfectly cured.

The third case is that of a girl, sixteen years of age, who, in consequence of a fright, was seized with convulsions. After her disease had lasted for four months, and she had tried a variety of medicines prescribed by another physician, Mr Wedenberg was called. After purging his patient, he ordered two grains of the stramonium to be taken twice every day, and some nitrous powders. The dose was gradually increased, till she took eight pills a-day; by this she was affected with heaviness in her head, and colic pains.

But, after she had persisted in the use of the medicine for twenty-six days, her convulsions entirely ceased, her appetite returned, and she recovered her former health and strength.

The fourth and last case is, that of a girl, thirteen years of age, who had been affected with convulsions for four months, when our author's assistance was asked. He began her with the stramonium pills, in his usual manner; but, a fever supervening on the seventh day, he was obliged to intermit them. Ten days after, she again returned to the use of them, and took to the extent of eight pills every day. After continuing them for three weeks, during which space she used the warm bath four times, she was perfectly recovered.

IV.

IV.

Recherches sur les Modifications de l'Atmosphere ; contenant l'Histoire critique du Barometer et du Thermometer ; un traité sur la construction de ces instrumens, des Experiences relatives à leurs usages, et principalement à la mesure des hauteurs, et à la Correction des Refractions moyennes, avec figures. Par J. A. de Luc, Citoyen de Geneve, Corresp. des Academ. Royales des Sciences de Paris et de Montpellier, tom. 2. 4to, Geneve.

WE have already presented our readers with an analysis of the first volume of this work *; and it was our intention to have given, soon after, an account of the second. It has, however, from an accident, which could not be prevented, been delayed much longer than was intended. This, we hope, the indulgence of our readers will forgive.

Having in the former volume finished the two first parts of his work, the author proceeds, in that now before us, to the third. In this he
gives

* Vid. vol. 1. p. 374.

gives an account of his farther improvements on the barometer ; his method of purging the mercury of air ; and his various attempts to prevent it from escaping from the tube, in order to render the barometer portable. In this he at length so far succeeded, as to enable it to bear very considerable shocks, and to admit of being carried on horseback, though he was unable to make it stand the jolting of a chaise.

In the fourth part, the author treats of the means of discovering the density of the air, in any place and at any time ; and of the application of this to the measuring of heights by the barometer. In the first chapter, we have the account of a phaenomenon, both curious and important. Upon measuring a mountain, having observed the height of the mercury in his barometer, two different times, at the same station, on the same day, he found it stood lower the second time than the first. When he returned to the plain, he was informed a variation, quite contrary, had taken place in the barometer which he left there. And afterwards, upon repeated trials, he found, that, as the heat increased, the mercury rose in the barometer in the mountain, and fell in that of the plain ; as the heat decreased, the contrary variation

variation took place. After shewing that heat may occasion these contrary variations, from a quantity being forced from the plain to the mountain, he observes, that, in order to measure the height of mountains exactly, by the barometer, it is necessary to pay attention to this circumstance, and to know the heat of the air at the time of observation, both in the plain and upon the mountain.

Mr de Luc next mentions the objections to ordinary thermometers for measuring the heat of the air; and proposes a method for constructing one which may be fit for this purpose. He then endeavours to investigate the laws which the dilatations of the air observe, as influenced by heat. From these laws he attempts to deduce a general rule, to be observed in the measuring of accessible heights by the barometer.

We are next presented with a number of observations made upon the mountain Saleve, and other places in the neighbourhood of Geneva. After relating these experiments, he points out the difficulties which he was still unable to overcome, and which prevented him from arriving at perfect exactness in measuring heights by the barometer. These difficulties proceed

ceed from the nature of the instrument ; from the difficulty of determining the influence of heat upon the density of the air ; from the nature of the air ; and from the effects of vapours.

After this, we have an essay upon the causes of the variations of the barometer in the same place, and an explanation of the principal phaenomena which accompany these variations. Mr de Luc remarks, that his observations on the mountain Saleve, and other places, led him to imagine, that these variations might be occasioned by causes which have not always an equal influence on the weight of the atmosphere: That the region of exhalations and vapours might be subject to vicissitudes of dilatation and condensation, which cannot be subjected to any general laws ; and that the air might be subject to mixtures, which can render its elasticity variable. Finding that, when the barometer in the plain was below its medium height, his observations never gave too much, but generally too little, elevation to the mountain ; and that, on the contrary, when the barometer on the plain was above its medium height, the observations generally gave too much ; he saw it was not only necessary to know, by the height of the barometer, the weight which compresses the
column

column of air, and by the thermometer, its temperature at the time, but that attention must also be paid to the variations of the barometer itself. These circumstances led him to inquire into the principal causes of the variations of the barometer.

He begins, by observing, that, if heat be allowed to be the immediate cause of evaporation, the vapours which are produced must be specifically lighter than the air, in whatever way the igneous fluid may combine itself with water. He next attempts to confute the opinion, that evaporation is produced by the air acting as a menstruum to water, and refers it entirely to heat. He then proceeds to show how vapours are the occasion of variations in the barometer. The vapours continually discharged from the sea must rise by their levity; but, at the same time, they are stopped when the difference between their specific gravity and that of the air is not sufficient to overcome the resistance with which the air opposes the separation of its parts. The vapours being thus detained, a column of air contains a fluid which has specifically less gravity than itself; hence the mercury in the barometer must fall.

After

After establishing this opinion, he proceeds to explain various phaenomena which have a relation to the variations of the barometer, and to reconcile them to his hypothesis. The chief of these phaenomena are the formation of clouds; the causes of rain, dew, and hoar-frost; the influence of winds; the cause of rain while the mercury is stationary, or even rising; and the reason why the variations of the barometer are greater in northern latitudes than under the equator.

After giving an account of the method of leveling roads by the barometer, he concludes this fourth part of his work, by examining the observations made by several eminent philosophers in different parts of the world. From this examination he shews, that the dilatations of the air observe the same laws at every height and in every climate.

In the fifth part, we are presented with some general reflections on the utility of barometrical observations. He introduces his subject, by observing, that, although the measuring of heights was his principal object, yet the discoveries which he has made in this pursuit may be of use, wherever the weight, density, or elasticity of the atmosphere have any influence. He proceeds to
make

make some particular applications of the principles which he had laid down, and points out a method of discovering with certainty the actual specific gravity of the air. He applies the same principles for determining the total weight of the atmosphere, and the differences in refraction which the rays of light must undergo from those changes which take place in the state of the air.

In opposition to the opinion of Cassini, who, for want of proper meteorological instruments, had concluded, that the part of the air which occasions refractions had no connection with that which occasions its weight, Mr de la Caille has demonstrated the necessity of correcting refractions in consequence of the different states in the atmosphere. Mr Mayer agreed with Mr de la Caille in imagining the refractions of the rays of light to be proportioned to the variations of the thermometer; but they differed with regard to the influence of heat. Mr Mayer thought, that a variation of ten degrees in Reaumur's thermometer corresponded to a change of $\frac{1}{11}$ in the refraction. Mr de la Caille believed, that it corresponded only to $\frac{1}{17}$. Mr De Luc attempts to discover the cause of the difference between these

these two philosophers. He observes, that refractions are affected by changes which take place in the density of the air ; but that these are produced by two very different causes. 1st, By the difference of the weight which presses upon the air. And, 2^{dly}, by the resistance to that pressure. The first of these is discovered by the barometer, the second by the thermometer.

To this work is subjoined a long supplement, concerning the variations in the heat of boiling water. It contains many curious observations ; but of these the limits of our publication will not allow us to give any account,

V.

Experimental Inquiries. Part Second; containing a Description of the Lymphatic System in the Human subject, and other Animals; illustrated with Plates. By William Hewson, F. R. S.

NO part of the animal oeconomy has of late more engaged the attention of anatomists,

mists than the system of vessels, generally known by the name of *valvular lymphatics*. Unfortunately, however, each of them has attached himself to a small part of this wide extended field, and while some of its branches have been described, even delineated, with accuracy, no connected account of the whole has ever appeared. To supply these deficiencies is the intention of this essay, which we may reasonably presume will not be disagreeable to the philosophical inquirers into nature, and may be useful to the practitioners of the medical art.

After a short history of the lymphatics, from the first steps made towards their discovery by Asellius, to his own demonstrations, which prove that they are generally diffused over the animal world, Mr Hewson gives a slight view of the structure of these vessels, which he suspects to possess a muscular power; and then proceeds to a full detail of their origin and course in the human body, referring to a few elegant plates. To render this part of his work as complete as the subject would allow, he has added a superficial description of the lymphatics in birds and fishes, with an account of his method of rendering them more obvious to the senses. As this part seems inca-

pable of abridgement, we next follow the author to a few experiments on the lymph, both as contained in its proper vessels, and exhaled into the different cavities of the body.

Fluids, in each of these states, coagulated when exposed to the air, and seemed more to resemble the buffy coat of the blood than its watery parts, to which both had been compared by Authors. This coagulum, Mr Hewson found to vary considerably in its degree of cohesion, being always firm in strong animals, but in weak ones of a much looser texture. And, in the course of his experiments, he observed, with pleasure, that the fluid, collected from the different cavities of the body, uniformly agreed with that found in the lymphatic vessels of the same animal, both in degree of tenacity, and time of coagulation. Thus far these fluids correspond with the coagulable part of blood; but they differ from it in the time necessary to form the coagulum, the blood always jellying much sooner than the lymph, and later in strong than in weak animals; the very reverse of what happens to that fluid.

From the following observations, Mr Hewson is of opinion, that the vessels exhaling fluids into the

the cavities of the body, whatever their structure may be, have a power of changing the nature of their contents.

1. A coagulum is often found covering the internal surface of inflamed cavities, without the smallest erosion. This can only be the natural exhalation, thrown out by inflamed vessels, with a strong disposition to coagulate.

2. As the lymph is discharged, variously changed in tenacity, and other properties, by disease, and as pus is sometimes found in the same manner in cavities, without any ulceration, the author thinks it at least probable, that this purulent matter is only the lymph itself, still more altered by flowing through vessels in a higher or different degree of inflammation; and, in this notion, he is confirmed, by observing, with the microscope, globules in pus like those of the milk, a secreted liquor.

On a review of his experiments, he thinks they evidently point out the following general conclusions: That the lymph and exhalations are of a similar nature, but differ widely from the watery part of the blood; that they coagulate on exposure to air, and are probably a species

cies of the lymph of the blood ; that they differ in the time and firmness of coagulation, in various degrees, from the cahectic habit, where they scarcely jelly at all, to the inflammatory, where very short time is requisite to a strong cohesion ; and that, in some cases, the inflamed vessels can even convert the fluid passing through them into real purulent matter.

Having thus given a correct idea of the properties of the lymph, he goes on to trace it from the circulating mass, and to investigate the manner of its separation ; with regard to which, he observes, two different opinions have been entertained. The first and most general is, that the lymph is poured into cavities, either by exhalent arteries, or pores of an organized nature on the sides of vessels. The other has lately been started by Dr Hunter, who considers the lymph as merely a transudation of the thinner parts of the blood through interstices, or inorganized pores in the vessels circulating the red blood ; which, though they retain the serum, allow the more fluid parts to pass with ease. In support of this new doctrine, Dr Hunter adduces the following facts.

1. Water

1. Water injected into the blood-vessels of a dead animal readily imitates this transfusion.

2. Blood itself transfuses after death, the lymph to which it owed its consistence being coagulated.

3. Bile transfuses through the gall-bladder; for, on opening an animal, all the adjacent parts are tinged.

With a view to disprove this notion, Mr Hewson maintains, that there is a tension in the vessels of a living body, forsaking them with life; and that, did such an exudation take place, it would defeat one great intention of vessels, the conveyance of fluids, and involve us in a continual round of exhalation and absorption, very contrary to the common simplicity of nature.

A second objection of Mr Hewson is, that, if liquors thus filtrate into cavities, not only must the vessels, creeping on their sides, but the membranes, lining these cavities, be porous. But, if these pores are admitted in every part, we cannot deny them to the whole extent of these membranes. And, were this the case, a partial dropy

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could never occur ; as a fluid would as easily escape, from within, outwards, as it formerly insinuated itself from the vessels into any cavity.

Another argument against the opinion of Dr Hunter, is drawn by Mr Hewson from his former experiment, where he found the lymph in different states of the body, so various in degree of viscosity. He is at a loss to conceive, how pores of an inorganized nature should pour out fluids so different in consistence, much less filtrate pus from the blood, where it never existed.

The argument of Dr Hunter, founded on the transfusion of blood, proceeds, he thinks, on an erroneous principle; for the blood of a living animal is actually thinned by the presence of the coagulable lymph: And, if this transfusion takes place in a dead, and not in a living animal, it ought rather to be attributed to a change in the vessels, than their contents. And this is almost proven by the attentive examination of one of the strongest of the doctor's own facts, viz. the bileous tinge on parts contiguous to the gall-bladder, which only takes place after an animal has been some time dead; but is never found in one recently killed.

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From all these, the author concludes, that, as the lymph is very different from pure water, it cannot be filtrated by inorganical passages; and that the common opinion is founded on reason and experiment, the lymph being not only transmitted through exhalant vessels, but by them changed in its properties, and adapted to the office of lubricating parts.

The manner in which the lymph is discharged into the cavities of the body being thus ascertained with a great degree of probability, Mr Hewson proceeds to examine how it is again absorbed, whether by the common veins, or by the lymphatic system. Besides the authority of all the ancients, the advocates for the first opinion think they are possessed of several conclusive arguments in its favour.

They alledge, that, in dead bodies, injections easily flow from the veins into several cavities. This Mr Hewson thinks, for many reasons, to have little force. The veins are very delicate, and may be ruptured by a very small distending power. And this seems in general to have been the case; for most of the injections used in these

experiments were far too gross to reach the extremities of the veins. And when those of a more penetrating nature are employed, they imitate that transfusion from vascular laxity, which takes place after death.

A second argument adduced in favour of the old opinion is, that chyle has been seen in the mesenteric veins. But this is a very inconclusive one, as the whole serum has been found of a white colour, and, in these vessels, might easily be mistaken for chyle. Another has been furnished by the structure of the penis; but this analogy is now given up, it being generally allowed, that the blood is not absorbed, but forced from its cells into the venous system.

Ligatures and compression on veins have afforded a fourth argument; but two circumstances unite to render this less satisfactory: *1st*, The lymphatics, being contiguous to the veins, may be affected by the same cause. And, *2^d*, the compression of a vein will throw a greater quantity of fluids on the exhalant arteries, by obstructing their flow through the red ones.

It has been farther alledged, that there is no continuation of vessels, nor any lymphatics in the placenta,

placenta, though absorption evidently takes place. To this Mr Hewson replies, that there may be lymphatics, though not discovered, and continued vessels from the mother to the foetus, though never injected.

The sixth argument is supplied by an experiment of Kaau Boerhaave. He injected a fluid into the intestines, which soon appeared in the meseraic veins. But Mr Hewson is much inclined to believe that there was some deception in this experiment, as it has been often repeated, without similar success. Did the fact even happen, it could never be by absorption, that ceasing soon after death, while this happened at the end of several hours; and, as pressure was applied to the stomach, the author thinks a venous rupture might give rise to the appearances observed by Kaau Boerhaave.

The seventh and last argument in favour of absorption by the the veins was, that many animals were destitute of any other vessels capable of performing that office, as birds, fishes, and amphibia; but the discovery in lymphatics of every one of these, has totally overthrown this argument.

To all these, the ingenious Mr Meckel has, of late, added some others, derived from injections
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of mercury in the lymphatic glands, vesiculæ feminales, bladder, and lacteal ducts of the breast, which he found to pass readily, and without extravasation, into the adjacent veins. But Mr Hewson observes, that extravasation is detected with difficulty ; and as the lymphatic vessels often lie contiguous to veins, it is not impossible that, in some cases, the mercury might burst from the one of them into the other, as often happened to Mr Hewson in the mesentery of the turtle. From all these, the author considers the old opinion, as at least open to many and weighty objections.

Unsatisfied, however, with this negative proof, he goes on to show, that absorption in reality is carried on by the lymphatic system, from the analogy of all these vessels with the lacteals, which form a part of that system, and are without doubt absorbents. Besides this, the course by which poisons reach the circulating fluids when externally applied, evidently points out that they enter the lymphatic vessels alone, and are by them conveyed towards the heart. To these Mr Hewson adds his observation, that the same fluid is always found in these vessels, and the cavities whence they arise. Thus there will remain little doubt of the absorbent power of lymphatics, a
function

function of such importance in the oeconomy, that, for it alone, nature has provided a distinct set of vessels: They had indeed, by some, been suspected to be only reflected arterial branches; but this has been long confuted by the experiments of Dr Monro and Dr Hunter.

The indefatigable author next proceeds to give some conjectures with regard to the manner in which a fluid is taken up by the absorbents, having first premised an account of the intimate structure of the villous coat of the alimentary canal.

The villi, says Mr Hewson, are folds of the internal coat, on each of which run an artery, and a vein, surrounding the open mouth of one or more lacteals. These running backwards, through the coats of the intestines, for several reticular convolutions, which misled Lieberkuhn into the notion of a small bag, of which Mr Hewson denies the existence. And he takes this opportunity of showing, that, in many glands of the body, similar convolutions have made anatomists suspect the presence of follicles, where, in fact, they cannot be found.

As

As absorption ceases with life, Mr Hewson favours us with the following curious idea of the manner in which it goes on. We find, says he, that where nervous papillae are intended to possess an exquisite degree of sensibility, they are inclosed in a plexus of blood-vessels, by which they are erected, and adapted to receive slighter impressions; and as the lacteal orifices are provided with a similar structure, it is probable that they are also erected and distended by the turgescency of the blood-vessels; and, in this situation, like capillary tubes, suck in whatever fluid is offered to their mouths. By this attraction, the fluid may reach the first pair of valves, and, acting as a stimulus, excite a muscular contraction, pushing on the lymph towards the heart; its transmission will also be forwarded by the pulsation of arteries, which frequently cross or accompany lymphatics.

All this part of Mr Hewson's work seems as much calculated for the philosopher as the physician; but he afterwards applies his observations to practice, and with several pathological remarks of importance concludes this essay.

From a comparison of the natural exhalation with these accumulations, constituting dropsy, he finds

finds them of different qualities ; and thinks he has a right to conclude, that neither increased exhalation, diminished absorption, or a ruptured lymphatic, can, in common cases, be reckoned the cause of that disease. He is of opinion, that these collections must proceed, either from a morbid state of the vessels, or too much water in the blood ; and that abdominal obstructions only give rise to dropsy, from their effect in forming the chyle. Thus, if the liver be diseased, little bile will be poured into the intestines, and the aliment of course will be less properly assimilated ; which naturally may produce a vitiated state of the blood. Mr Hewson next observes, that various species of acrid and poisonous matter, passing, as has been proved, through the lymphatic system, give rise to tumor of the glands, between the place of application and the heart ; a fact well meriting the attention of surgeons, who might mistake these for primary diseases, and expect to cure them without attending to the real cause.

Another circumstance of importance to a surgeon, is, that poisons are often not absorbed in an instant, and that extirpation of the part affords the most rational prospect of a cure.

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His last observation is with regard to the cure of oedema, which is often occasioned by indurated lymphatic glands, or some other cause, obstructing the return of the lymph. The cure in these cases can only be performed by a knowledge of the original cause and its final removal.

VI.

Observations on solar spots. By Alexander Wilson, M. D. Professor of Practical Astronomy in the university of Glasgow, communicated to the Reverend Nevile Maskelyne, Astronomer Royal. Vid. Philosophical Transactions, Vol. LXIV. Part 1. 4to, London.

AFTER the invention of the telescope, an object so considerable as the sun could not fail to claim attention. One of the most remarkable discoveries, made with regard to it, was that of spots appearing upon its surface, which were subjected to many remarkable variations. These phaenomena, while they tended to overthrow opinions before entertained, excited great hopes, that,

that, by due attention, something curious and important concerning the nature and constitution of the sun itself, might be determined. It is, therefore, by no means surprising, that philosophers of the first note should have engaged in the prosecution of this inquiry.

The learned and ingenious author of the paper now before us, introduces his own observations on the subject of the solar spots, by some remarks on the conjectures which had been offered by others. The chief of these were Scheiner and Hevelius. The attention they bestowed upon this subject deserves applause. But, excepting a few conclusions concerning the rotation of the sun round its axis, and the inclination of its axis to the plane of the ecliptic, our author is of opinion, that nothing of moment can be derived from their observations.

His own observations commenced in the month of November 1769, at which time a spot of an extraordinary size appeared upon the sun. He had an opportunity of observing the changes which took place in it, at a time when its nucleus and umbra were very clearly defined. The umbra, which at first was equally broad all round the nucleus, soon appeared much contracted on that
part

part which lay towards the disc of the sun, while the other parts of it remained nearly of their former dimensions. After this, the contracted side of the umbra entirely vanished, and the nucleus changed its figure. From these circumstances, Dr Wilson began to suspect, that the central part, or nucleus of this spot, was beneath the level of the sun's spherical surface, and that the shady zone, or umbra, might be nothing else but the shelving sides of the luminous matter of the sun, reaching from this surface, in every direction, down to the nucleus. And he supposed this solar spot to be a vast excavation, the nucleus being its bottom, and the umbra its sides.

Soon after he had formed this conjecture, the spot disappeared, in consequence of the revolution of the sun round its axis. But, by observations made, upon its again returning after half a revolution, he was still farther confirmed in his opinion. He next endeavoured to devise some means for ascertaining the depth of this excavation. The breadth of the umbra on one side, he found, by observation, to be 14 minutes; but, for determining the point in question, it was necessary to know its inclination to the sun's spherical surface. As, upon the first appearance of the umbra,

bra, or upon its being just hid, a line joining the eye, and its uppermost limit, must coincide with the plane of its declivity, he concluded, that, by measuring the distance of the edge from the limb, when this change takes place, and by representing it by a projection, the inclination may be ascertained. Proceeding upon these principles, from the observations which he made, he was led to believe, that the bottom of this solar spot was not less than a semidiameter of the earth below the sun's spherical surface.

After this examination of the large solar spot, he next proceeded to examine smaller ones, in order to discover whether they were of the same kind. From above forty observations, he found reason for concluding that every spot, consisting of a nucleus and surrounding umbra, is of the same kind with that described above.

During the course of these observations, he had an opportunity of remarking another extraordinary circumstance respecting solar spots. On several occasions, he observed one spot break out in the neighbourhood of another, by means of which changes were produced in the first. It may seem strange that none of the former obser-

vers, who looked at the solar spots with so much attention, should have discovered these phaenomena. This our author ascribes to the idea they entertained of the nature of the sun, to their supposing that solar spots could consist of nothing else but smoke and grosser exhalations, and to their chiefly observing these spots by the camera obscura. He affirms, however, that, in this way, they can by no means be seen with the same distinctness as through a good telescope, armed with a glass properly smoked.

From the perusal of this paper, it will be evident to our readers, that Dr Wilson has thrown new light upon a subject no less curious than it is grand. We mean not to detract from his merit, when we observe, in his own words, that a happy concurrence of circumstances has often effected more than the most promising measures. In the present instance, both have been conjoined. It is probable, however, that much still remains to be discovered. But it is to be hoped, that the success which has attended Dr Wilson's inquiries will encourage both himself and others to prosecute this investigation.

VII. *The*

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The Case of a Patient voiding stones through a fistulous Sore in the Loins, without any concomitant Discharge of Urine by the same Passages. In a Letter to Dr Matty from Mr S. F. Simmons. Vid. Philosophical Transactions, Vol. LXIV. Part. 1. 4to, London.

TH E case with which we are here presented is not of a nature so singular, that similar instances may not be found on record; yet some interesting circumstances, with which it was attended, well deserve notice. A woman, above fifty years of age, had, for above half that time, been affected with nephritic complaints. For the greatest part of that period, she had voided gravel with her urine, and had, on different occasions, passed small stones.

About ten years after the first attack, a swelling appeared on the left lumbar region, which, at length, suppurated. The wound did not heal, but constantly afforded an ichorous discharge. After five years continuance, this discharge be-

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gan to abate, and the wound, from being perfectly easy, became painful and inflamed. The pain of her back, which had always affected the left side, became more intense than ever. But, during these symptoms, she continued to pass her urine in a healthy quantity, and without difficulty. The gravelly appearance in her urine now entirely disappeared, nor were any calculi voided. After she had continued in this situation for about eight days, a smooth calculus, weighing nearly twelve grains, was extracted, with some difficulty, from the wound in the back.

After recovering from this paroxysm, she was, at different times, affected with six others, all of which terminated in a similar manner. During the intervals, she enjoyed a state of ease and health; the wound soon contracting to its usual size, and admitting with difficulty a common probe.

From this history, Mr Simmons draws several conclusions. As the urine continued in the natural quantity, and without any morbid appearance, he imagines that the right kidney had never been affected. As, after the discharge of stones from the wound in the back, no gravel or sand was discharged by the urine, he thinks it probable

probable that the left ureter was closed. And as no urine ever passed by the back, he concludes that the secretion by the left kidney must have been destroyed.

VIII.

An account of certain Receptacles of Air in Birds, which communicate with the Lungs, and are lodged both among the fleshy Parts, and in the hollow Bones of those Animals. By John Hunter, F. R. S. Vid. Philosophical Transactions. Vol. LXIV. Part. 1. 4to, London.

THERE are unquestionably many particulars in the anatomy of animals, which are either unknown or too little attended to by natural historians. Among these, we may rank that singular circumstance in the oeconomy of birds, which is the subject of the present dissertation. This structure, which, it is highly probable, is materially concerned in explaining many of their functions, does not seem to have been properly described by any anatomist before Mr Hunter.

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And, from the promise with which he concludes this paper, we have reason to hope that he will hereafter prosecute the same inquiry at great length.

Mr Hunter introduces his subject, by giving an idea of the difference between the cells of birds deriving air from the lungs, and those of the cellular membrane, which are common to all animals. The air-cells, which are found in soft parts, have no communication with the cellular membrane. Some of them communicate immediately with each other, all of them by the intervention of the lungs as a common centre. Some of them are placed in cavities, as the abdomen; others, in the interstices of parts, as about the breast. They are of different sizes, as best suits the circumstances of these parts. The bones receiving air are of two kinds, some of them divided into innumerable cells, others hollowed out into one large canal. They may be distinguished from bones not receiving air, by having less specific gravity; by being less vascular; by containing little oil; by having no marrow nor blood in their cells; by having less hardness and firmness than others; and by the passage for the air being perceivable.

He next gives an idea of that mechanism of the lungs of birds, which renders them fit for communicating

communicating the air to the parts mentioned above. In birds, he observes, the lungs are attached to the diaphragm, and they are connected also to the ribs and sides of the vertebrae. These adhesions are rendered absolutely necessary by the passage from the lungs into other cavities. Were it not for these, birds would be in the same situation with other animals, when their lungs are so much wounded as to allow free passage of air into the cavity of the thorax. In either case, the lungs could not be expanded, and respiration would be totally prevented.

After this, Mr Hunter describes the internal openings into the lungs, by which they communicate air to the other parts. The diaphragm is perforated in several places by pretty large holes, allowing a free passage of air into the abdomen. To each of these holes is attached a distinct membranous bag, thin and transparent. The lungs open at their anterior part into membranous cells, which lie upon the sides of the pericardium, and communicate with the cells of the sternum. The superior parts of the lungs open into cells of a loose net-work, through which the trachea and oesophagus pass. When these cells are distend-

ed with air, it indicates passion, as in the case of the Turkey-cock, pouting-pidgeon, &c. These cells communicate with others in the axilla, and under the large pectoral muscle; and those with the cavity of the os humeri, by means of small openings in the hollow surface near the head of that bone. Lastly, the posterior edges of the lungs have openings into the cells of the vertebrae, ribs, os sacrum, and other bones of the pelvis, from which the air finds a passage to the cavity of the thigh bone.

The account here given holds in most cases, yet in some instances there are more, in others fewer communications. And, in some instances, the air is not derived from the lungs, as in the cells in the scull of the owl, to which it is furnished by the Eustachian tube.

After mentioning these facts, the ingenious author next relates some experiments which he made to prove the free communication between the lungs and the cavities now mentioned. From these experiments, it appears, that, after the trachea was tied, a cock breathed through a canula introduced into his belly; another through the os humeri, when cut across; and a hawk
through

through the os femoris. In all these cases, the animals soon died. In the first, Mr Hunter ascribes the death to an inflammation induced upon the bowels. In the two last, he allows that it proceeded from difficult respiration. What took place, however, was sufficient to shew that the animals did breathe through the cut bone.

This paper is concluded by some reflections concerning the final cause of these singular communications. It at first occurred to Mr Hunter, that it might be intended for flying, as serving to increase the volume and strength with the same quantity of matter. And in this opinion he was farther confirmed, by observing that the feathers of birds contain a considerable quantity of air. But, to this supposition, several objections presented themselves, particularly the plentiful existence of these cells in the ostrich, which does not fly; and their total absence in the batt, which does fly.

His next conjecture was, that these parts were to be considered as an appendage to the lungs, and, like the bags continued through the bellies of amphibious animals, that they served as reservoirs for air. Amphibious animals, by means of these bags, have occasion to breathe less frequently

ly than others, and thus can live under water. A similar contrivance may be necessary in birds, as the motion of flying may easily be imagined to render frequency of respiration difficult. He farther insinuates, that this construction of the respiratory organs may assist birds in singing ; which, he thinks, may be inferred from the long continuance of song between the breathings of a canary-bird.

IX.

Observations sur une Pierre de la Matrice, par M. Bouvet, cadet, Maitre en Chirurgie à Sirod en Franche Comté. Vid. Journal de Medecine, par M. A. Roux, Docteur-regent de la Faculté de Medecine de Paris. Tom. XLI. 12mo, Paris,

THE singularity of the case now before us, if the author has not been deceived with regard to the seat of the affection, well deserves notice. A woman, about fifty years of age, of a sanguine habit, and remarkably healthful, suddenly began to complain of a pain in the vagina, attended

tended with difficulty in making water, affections of the kidneys, and general tension of the hypogastric region. These complaints were soon followed by irregular shiverings, feverish heat, obstinate costiveness, violent headach, aversion to food, bad taste in the mouth, and frequent inclination to vomit.

Mr Bouvet, finding the woman in this situation, endeavoured, by the usual means, to mitigate the pain and fever. In this attempt, however, he could by no means succeed. On the contrary, the strangury became more and more intolerable, and the patient was now constantly affected with a sense of weight in the lower belly. In this situation, it was thought necessary to draw off the urine, by introducing a catheter into the bladder. But, upon trial, it was found that this was not in the smallest degree serviceable.

From the account which this patient now gave of the efforts she was obliged to make in passing her water, and of the feeling she had of a heavy body, moving from the abdomen towards the labia pudendi, and returning back when these efforts ceased, Mr Bouvet could no longer doubt of the presence of some extraneous body, either in the uterus or bladder of urine. One of his friends,

friends, whom he called to visit this case, agreeing with him in the same opinion, and both of them supposing it to be a polypus of the uterus, they determined to attempt extirpating it by a ligature. With this view, Mr Bouvet's associate introduced his hand into the vagina, and grasping the body forcibly between his fingers, it came away, and was found to be a stone, weighing three drams and twelve grains. This stone, he tells us, appeared to have been contained in a cyst, attached by a long pedicle to some place about the os uteri. From the moment the stone was extracted, the patient was relieved, and, without any suppuration of the lacerated membranes, got well in a few days.

X. Dissertation

X.

Dissertation sur l'Operation de la Fistule à l'Anus, pratiquée avec le fil de plomb; par M. Majault, Docteur, Professeur en Medecine, et Chirurgien-major de l'Hospital Militaire de Douay. Vid. Journal de Medecine, tome XLI. 12mo. Paris.

THE surgery of the moderns, our author observes, is in general much less painful in its operations than that of the antients: But the operation for the fistula in ano furnishes an exception to this general observation. The antient method of operating by ligature being, in his opinion, much more simple, easy, and expeditious, than that now practised. Mr Foubert was the first whom the advantages of the antient method induced to recommend its being renewed, with this sole difference, that he employed a metallic in place of a silken ligature. Mr Majault here presents us with an account of this method, suggesting, at the same time, a few improvements of his own, and confirming the whole by the

the history of fourteen cases successfully treated in this way.

The manner of operating which he proposes, is shortly this. By a pliable silver needle, about four inches in length, a bit of leaden wire, of a line and a half in circumference, is introduced from the external opening through the internal one, in a compleat fistula, and withdrawn by the finger down the rectum, so as to comprehend every thing lying between the two openings. The ligature being disengaged from the instrument, is twisted in such a manner as to give a slight degree of pain to the patient ; and it is prevented, by proper compresses, from injuring the neighbouring parts. In this situation, it is left in the fistula, and twisted from time to time, till it cut its way out ; the wound being, at the same time, frequently washed with a little warm wine. Mr Foubert had observed, that, in some cases treated in this manner, a small internal ulcer remained after the external opening was compleatly cicatrized. This inconvenience, Mr Majault assures us, may be infallibly avoided, by pressing the instrument through the intestine above the internal opening. He likewise dissuades from the injections employed by Mr Foubert, in order to discover

discover the internal opening, not only as unnecessary, but as being productive of the worst consequences, in destroying the cellular membrane, laying bare the intestine, and even occasioning fistulous openings, which did not before exist.

XI.

Tentamen physiologicum, de Secretione glandulari;
auctore Jacobo Hendy. 8vo. Edinburgi.

DR HENDY begins this dissertation, by defining glands to be appendages of the sanguiferous and lymphatic systems, which have the power of changing fluids brought to them, or of separating certain parts from the general mass of the fluids. He then divides his subject into three sections. In the first, he treats of the general structure of glands, and of the propriety of his definition, adding a short table, containing his division of them: Then he considers those glands more particularly, which are appendages of the sanguiferous system, and afterwards those which belong to the lymphatic system. In
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the second section, the author relates the most common opinions concerning the manner in which they change the general mass of the fluids, or separate any thing from it. In the third, he delivers what he thinks the most probable account of the manner in which secretion is performed, with the arguments which serve to confirm it. In treating of *the structure of glands*, our author rejects the opinion of Malpighi, who considers them as vesicles; and thinks it proved, by the injections of Ruysch, that they consist merely of a convolution of vessels. He does not deny, that the follicles mentioned by Malpighi are sometimes found; but he maintains, that this is only a morbid appearance, and that they are frequently met with in places where glands are never seen, as in the cellular texture of different parts of the body. Even when they are found in glands, he asserts, that they are never increased by an accumulation of the fluid secreted in the glands, and refers, as a proof of this argument, to the hydatides of the liver.

In his definition, our author affirms, that glands are to be considered as appendages of the sanguiferous and lymphatic system. In the next place,

place, therefore, we have a table referring them to these different heads. Those of the sanguiferous system are considered as belonging either to the arteries or the veins. To the first, are referred all those mucous glands, which moisten or lubricate cavities, the salivary glands, the pancreas, the kidneys, womens breasts, the testicles, and perhaps the thyroid gland, with every other gland not reduced under some particular head. As an appendage of the venous system, our author considers the liver. The appendages of the lymphatic system are, the lymphatic glands, the thymus, and the spleen. Dr Hendy then favours us with a conjecture, that the brain, the pineal and pituitary glands, the ganglia of the nerves, and the capsula renalis, are to be considered as glandular appendages to the nervous system. The pineal and pituitary glands, and the ganglia of the nerves, are included under this head from their situation, and more their immediate connection with the nervous system; and the renal capsule is also mentioned here, because, in those monsters, who have been born with a small brain, or without it altogether, it has been found in a similar and an exactly proportioned situation.

The glandular appendages of the sanguiferous system are, according to our author, either simple, or more complex. As an instance of the former, he mentions the organs destined for the secretion of that fluid which is found in the different interstices of the body. Concerning their structure, he mentions the three following opinions, viz. That they are either inorganic pores, organic pores, or exhalant arteries. The first, which owes its origin to Dr Hunter, is, in our author's opinion, so fully confuted by the late Mr Hewson, in his experimental inquiry, that he thinks it needless to consider it in this place. He, in the next place, says, that these organs are not organic pores, because such a structure is not capable of producing a fluid so different from any of the contents of the blood, as is the interstitial fluid. And therefore he concludes, that they are exhalant arteries; and endeavours to support this conclusion from some morbid appearances, and particularly from the formation of pus.

The more complex-glands, he also considers as entirely vascular; but, with this difference, that the vessels are exceedingly convoluted; In confirmation of which opinion, he refers to the injections of Ruysch; but more particularly to those

of

of Mr Hewson. Of this sort, he mentions the liver, kidneys, and testicles; and he thinks that the receptacles, with which these glands are attended, do by no means conduce to secretion, but are only repositories for the secreted fluids, in which they are preserved for the use of the oeconomy; and undergo no other change than the loss of their more fluid parts, by means of absorption,

The glandular appendages of the lymphatic system may, according to Dr Hendy, be truly considered as distinct from those of the sanguiferous system; because the lymphatic vessels proceed from various cavities, and are by no means continuations of the arteries. He observes, however, that the red particles of the blood are sometimes found in this system of vessels; and he asserts, that the orifices of these vessels will not admit of their taking them up by absorption; and that, even if this was possible, they are never found in the fluids destined for absorption. He concludes, therefore, that the red particles of the blood are formed in the lymphatic glands, thymus, and spleen. Concerning the structure of the lymphatic glands, our author observes, that, when the arteries and veins are filled with coloured liquors,

or mercury, the glands seem to be entirely composed of these vessels; and that the lymphatic vessels which enter the glands, are often divided, and again united in them; but in some cases are only convoluted.

The Thymus resembles the lymphatic glands in structure, except only that the lymphatic vessels do not enter and pass through it, but arise out of it. The spleen has a remarkable number of blood-vessels; very many lymphatics arise from it; and it is of a cellular nature. Our author supposes, that the red particles of the blood consist of a depressed central globule, surrounded by a vesicle, and that this vesicle is formed in the spleen; because the lymphatic vessels coming out of the spleen, have been found almost full of these particles. But, for a more full account of this doctrine, he refers his readers to a paper, in the philosophical transactions, by Mr Hewson, and to the lectures of that same gentleman, to whom he attributes his sentiments on this subject.

In the next place, our author proceeds, in the second section, to treat of the manner in which the glands act. Here he examines the opinion of Des Cartes, who supposed, that the glands perform their offices, like sieves of different sizes,
admitting

admitting only particular particles of our fluids; and also the supposition, that the glands were furnished with their peculiar fluids at their first formation, and continue to act by attracting similar fluids from the general mass. But he objects to both of these hypotheses, for several reasons, and, particularly, because the blood does not formally contain the different fluids secreted. The last theory of secretion considered by our author is, that which attributes it to fermentation; but this too he rejects, as there are no proofs of fermentation in the general mass of our fluids. As a proof, that secretions do not proceed from any fermentative process, our author subjoins some experiments on pus, which he considers as a secreted fluid. From the two first it appears, that pus is of a much less putrid nature than serum, and that the putrefaction of both of these fluids may be accelerated by the addition of some of the red particles of the blood. In the third experiment, we see that a thin piece of lamb's flesh, applied to an ulcer discharging laudable pus, and covered over by some thin lead, did by no means assume the appearance of pus, but became foetid, and was much lessened. In order to try, whether effused fluids can be converted into pus by fermentation, our author made several other experiments,

riments, in which he applied serum in its inflammatory and ordinary state, and also coagulable lymph, in different states, to the same ulcer, which still discharged good pus ; but none of these fluids were converted into pus ; and, on the contrary, they became very putrid.

From these experiments, therefore, Dr Hendy concludes, that pus does not rise from a fermentative process. And, in the next place, he inquires, whether any assistance in the solution of this question can be derived from Mr John Hunter's opinion, that the blood possesses a living power. But, after a full examination of those arguments in favour of this opinion, which have been mentioned in a former number of our Medical Commentaries, he rejects the supposition, and asserts, that the blood has no appearance of that organical structure which he reckons necessary to the performance of the active functions of life.

In the last section of this dissertation, our author gives his own sentiments on the nature of secretion ; and attributes it intirely to the action of the blood-vessels supplying the different glands. This action he ultimately refers to the state of motion in the nervous power, since secretion is always affected by the passions of the mind, and other stimulants and sedatives, in the same manner as
other

other functions which are without hesitation attributed to the nerves. The variety of the secretions is thought to proceed from the various densities of the arteries, and their various divisions, which are exceedingly great. Our author considers the generation of pus as a secretion, from its being affected by the same circumstances which act upon the more obvious secretions; and he affirms, with Mr Hewson, that it is sometimes secreted from exhalant arteries, without any ulceration.

But, in order to confirm this opinion, he endeavours to show, that the conclusions which Mr Gaber drew from his experiments are not just, and that pus is never formed from putrid serum. To this purpose he asserts, that the sediment from putrid serum is very different from pus, as a long time is necessary to the precipitation of the former, whereas the latter is perfectly formed in a few hours; and that the foetor of putrid serum is very great, but that of pus inconsiderable, and scarcely sensible. He further adds, that pus is much less putrescent than serum; and that, when it becomes very putrid in a short time, the putrefaction has been hastened by the mixture of some of the red particles of the blood with the purulent matter.

S E C T. II.

Medical Observations.

I.

*Observations on the Medical Virtues of Lead, by,
Mr William White, F. A. S. Surgeon in
York.*

CELSUS, and Dioscorides of Anazarba, the celebrated botanist, who flourished under the reign of Vespasian, are, I think, the first who make mention of the various preparations of lead, as minium, cerussa, &c. and, as physicians, greatly extol their virtues; but they used them only externally.

Lead hath been accused, and with great reason, of being the cause of the colica pictonum, when given internally. Its external use has been also much suspected; but I think upon too slight grounds. I have seen it used so freely as a to-
pic,

pic, in ulcers, burns, excoriations, &c. that I can never suspect a small plate of lead put over an issue, or sitting in a new painted room, can ever bring on symptoms of the colic of *Poictu* in even the most irritable habits. However, it is now come into universal use, and claims the most distinguished place among the topical remedies. Indeed its effect in abating inflammation is wonderful; and, with Messrs White, Aiken, &c. I cannot but join in esteeming it equally innocent as efficacious.

A brewer to a gentleman near this city, slept with his arm up to the shoulder into a vat of boiling wort, and was so miserably scalded, that the cuticula came entirely off, from the axilla down to his finger ends. The pain and inflammation was very violent, so that, after a few hours, I was sent for. Cloths, wet in Goulard's aqua saturnina, were directed to be wrapped about the whole arm, and, as they grew dry, moistened afresh, for the space of an hour, night and morning; the arm was then covered with a saturnine cerat, spread upon linen, till the time of bathing again. The relief was wonderful; the poor man really believed it was done by witchcraft; so sudden

den and effectual was the sedative effect of the lead experienced.

This man never found any bad effects from the application, though used in large quantities, and applied to such a large denudated space, where the absorption must too have been very considerable.

A stout young man came to our hospital, a few weeks ago, with a gutta serena. He got his living by working in the lead mines, his business being to detach the ore, having no concern in the cleansing or melting of it. He went to his bed with his sight entire; but next morning awoke perfectly blind, about twenty weeks ago. He never had any colicky symptoms, or any paralytic affection. Whether this state of the paralysis of the optic nerves might have been caused by lead, I shall leave to others to determine; but I never before saw the retina in such an absolute state of insensibility.

May not the effects of lead be understood from the following considerations?

The living solids of an animal fibre are endowed with a power of action, which is increased by any irritating cause. This aptitude of the animal fibres to be acted upon by a stimulus, is termed

ed their *irritability*. In proportion to the weakness of this power, will the effect of any stimulus to the part be less apparent, and the consequent contractions more weak and languid.

Inflammation seems to be only a morbid increase of this power of action, the effect of an irritation more or less permanent and violent. Lead, especially when combined with an acid, hath a singular effect in diminishing the irritability. It exerts this sedative power upon every living part to which it is applied, both in its healthful and diseased state. Saturnine preparations are of a very astringent quality; hence I cannot suspect them capable of being absorbed into the system. Would they not rather effectually constrict the orifices of the absorbent vessels? We know that chalybeates are not capable of being thus conveyed into the body. It appears to me that they cannot exert their effects upon any part of the body, but in consequence of an immediate application.

Lead is said to have a peculiar effect of exerting its noxious qualities upon the *primae viae*; but let us consider, that, when taken into the body, it is always applied in contact with those parts. May not the obstinate colics, constipations, and
palsies,

palsies, so often the consequences of its internal use, be the effects of its extreme sedative power, rendering the intestines incapable of irritation from their contents, the consequence of which will be the loss of their peristaltic motion, which will be followed by every symptom of the colic of Poictu?

I am of opinion, that the preparations of lead can never be given internally with propriety. The numerous and well authenticated instances of mischief, resulting from such practice, demands our particular attention to guard against every means, by which that metal may be brought into immediate contact of the bowels. It is a pity that we are thus prevented from exhibiting a medicine so powerfully sedative, and capable of allaying the inordinate actions of the living fibres in general. Perhaps by some new unthought of combination, its topical action upon the bowels may be obviated or prevented. Such a mixture, I should imagine, might be found to answer some important medical indications.

Fuller much recommends a gargle with sugar of lead; and has, if I remember right, been blamed for it. It must be acknowledged, that some caution is necessary to be observed in using it.

But

But I have frequently used a saturnine gargle in an erysipelatous inflammation of the fauces, with or without aphthae, and with the greatest success. We are, however, confined in its use, from many people, children universally, being incapable of using either by means of a syringe, or otherwise, without suffering part of it to get down into the stomach, which might be followed by some disagreeable consequences.

I have always been fearful of giving lead internally, and never have yet advised it ; but certain it is, that some constitutions are much less liable to suffer from it than others, proceeding from some peculiarity of habit, general or topical. By the latter, I mean some peculiar state of the nerves of the bowels, by which they are less apt to be disturbed or affected by such medicines.

I have known repeated instances of a continued use of the tinct. saturnina, and in considerable doses, in cases of a phthisis pulmonalis, without being followed by any symptoms of colic : On the contrary, it seemed to act as a general sedative, constantly abating the hectic heat and sweats. In one case, to which I attended particularly, it evidently diminished the irritability of the heart
and

and arterial system, seldom failing to render the pulse slower, by ten strokes in a minute.

On the contrary, I have known pain, flatulent distensions of the bowels, and obstinate constipations, brought on by a single dose of that tincture, and believe that a repetition would have been followed by the colic of Poictu.

Saturnine topics have been much blamed, as causing many bad symptoms; but probably, in many cases, such disagreeable effects have been rather the consequences of a retropulsion of some irritating acrimony into the system, being generally observed in children, and very irritable habits.

Many instances are related in authors, of the spasmodic colic being brought on by such external applications, and I doubt not but with sufficient reason. Dr Baker has given several cases of pains in the bowels coming on, subsequent to their use; but it is probable, that colica pictonum has, at times, been confounded with some of the other species of colica.

It is now a very favourable time for observing, whether the colic of Poictu, or many of the other bad effects of an internal use of lead, can be ever produced

produced by it, when used externally, as its preparations are come into universal use.

I have used some gallons of the aqua saturnina of Goulard; and many other practitioners, with whom I have conversed upon the subject, all agree with me in not knowing a single instance of bad consequences induced from such applications. Dr Haygarth, in his letter to Dr Percival, from a very plentiful use of them in the patients who suffered by the accident at Chester, never observed the slightest symptom of colic or palsy, tho' he was particularly attentive to that very subject.

Being upon the subject of sedatives, among which the action of cold holds a distinguished rank, an experiment just occurs to my mind, which I performed after Dr Franklin. I wet the bulb of Fahrenheit's thermometer with aether, and quickened the evaporation, by blowing upon it with a pair of bellows (done by an assistant); and this being continued alternately, for a quarter of an hour, the mercury fell from 54 to 28 degrees; or 4 degrees below the freezing point, my finger being at last quite benumbed with the cold.

Might not this be a commodious way of applying cold topically in some disorders, as in superficial

perficual inflammations from an external cause, the occasional cause being previously removed, or in some kinds of headach? &c.

The experiment requires a very pure aether. I tried it in vain with some that was reckoned very good; but I imagine it had been adulterated with some kind of essential oil, which hindered the evaporation, and rendered the experiment fruitless. By continuing the process, a much greater degree of cold may be generated.

II.

*A remarkable Case of Deafness cured by Salivation,
By Mr Robert Gordon, Surgeon to the 54th
Regiment.*

JOHN BLUE'T, a soldier of the 54th regiment, a strong healthy strong man, bathing in the sea at Galway, 7th September 1771, upon plunging over head, instantly became perfectly deaf. He was brought immediately to the regimental hospital; complained of a violent pain in his

his head, of a hissing noise in his ears, and looked frightened. Nothing could be learned from inspecting his ears. However, all the usual remedies in deafness were administered, but without effect. He continued in this situation about three months, when the commanding officer talked of discharging him, as I had no hopes of his recovering his hearing. It occurred to me then, to try what mercury would do, although I had little or no hopes of success. Accordingly, upon the 10th of December, he was put upon a mercurial course. Upon the 16th, being the day succeeding the 6th inunction, he told me, with joy painted on his countenance, that he had heard the drums at troop beating that morning, which he had not been able to do before, since the day he went into the water. Upon speaking to him very loud, he understood me for the first time, since his admission into the hospital; previous to this, being always obliged to write down any questions I had occasion to ask him. It is remarkable that this morning his mouth was first affected with the mercury. The mercurial course, therefore, was continued some time longer. A gentle salivation supervening, his hearing was gradually restored; and

VOL. III. F upon

upon the 4th of February 1772, he returned to his duty, perfectly cured.

This man had been affected with a gonorrhoea about a twelve-month before this accident, was cured by the use of mercurial medicines, and he continued free from complaints of every kind, from that time, till his bathing on the 7th September, as mentioned above; and was, at the time of going into the water, in the highest health. He never had any deafness before; nor was it the first time he had bathed that season.

III.

The History of a Case, in which some of the Vertebrae were found dissolved. By Mr Benjamin Bell, Surgeon in Edinburgh.

ON the 10th of July 1772, I was desired to visit a man, aged 40. He then complained of a violently acute pain in the small of his back, shooting down towards the upper part of both thighs, though more severely towards the right side.

side. He could not raise his body into an erect posture, but with great pain; and, when it was so, he was obliged to bend forward again, before he could walk; as it was only in that position that he could make use of his right leg.

Upon examining the parts affected, they did not appear either swelled or discoloured; nor did he complain of any additional pain on pressure. He complained also of wandering pains in different parts of his body, particularly in the joints of his shoulders, wrists, and knees. The above symptoms first began about three months before, and had been turning daily worse ever since. A cart had been driven over his body about four years ago, to which he imputed his complaints; tho' none of the symptoms, but in a trifling degree, appeared till within three months of the above date. Before I saw him, he had used many medicines and applications, but with no advantage.

I ordered a variety of medicines, both internally and externally; but with no other effect than in relieving the flying pains in his joints, of which he complained. As he was of a plethoric habit, blood-letting was prescribed; and, in a few days after, a blister was applied to the part affected, a-

bout the small of the back, which was kept open for a fortnight, but with no great relief. The parts were frequently rubbed with linimentum volatile; cupping, with scarifying, were at different times made use of, and, for a day or two, they generally gave some relief; but the pain always recurred, and in as violent a degree as ever.

The pain in his loins, notwithstanding the use of these, and a variety of other medicines, both internally and externally, continued to increase, till within a fortnight of his death; when he was seized with a pain in his breast, difficulty of breathing, heat, thirst, and other symptoms of fever, which, though blood-letting, and other remedies were prescribed, still grew more violent; and he died on the 26th November 1773.

Upon opening his body, after death, the lungs were found much inflamed, and hard tubercles in different parts of them. On both sides, they adhered to the pleura; and, in the left cavity of the breast, upwards of three pounds of fluid matter were found extravasated. Firm polypous concretions were likewise found in the large vessels about the heart. All the abdominal viscera
appeared

appeared found ; but, upon turning them out, a large swelling was observed, extending from the lowest vertebra of the back, downwards along the course of the psoas and iliacus internus muscles of the right side, with its under extremity pointing at that opening below Paupert's ligament, through which the large vessels of the thigh pass. Upon being laid open, it was found to consist of a very tough membranous bag, containing upwards of two pounds of a thick foetid yellow matter, with a great many pieces of carious bones interspersed in it, which, upon farther examination, were found to have come from the undermost vertebra of the back, and uppermost of the loins ; both of which were almost entirely consumed, and what did remain of them was quite soft and rotten. The matter, when contained in the cyst, had surrounded the spinal marrow at this vacancy between the bones. It was observed to be of a much less firm texture than natural.

It may be remarked, that this patient had not at any time, during the whole course of the disease, any paralytic symptom whatever.

IV.

A peculiar Case of a Species of Maggots being discharged from the Uterus during Menstruation.
By Mr Thomas Cockson, Surgeon at Campden.

A Farmer's wife, about 27 years of age, always very healthy, applied to me, about the month of June 1773, for a complaint in the uterus, with which she had been troubled for the space of three months before she asked my advice. About the time of menstruation, for three or four days previous to the appearance of blood, she had the usual pain in her loins, but severer than common, attended with an uterine discharge of a greenish hue, and so exceedingly offensive to the smell, that she could scarce bear herself. This discharge continued till the menses appeared. Now, from the first appearance of this discharge, until the cessation of the menses, great numbers of maggots were brought away. They were all discharged alive. They were very small, and of an odd conformation. They had a large head, with a small

small tail in comparison; and in figure much resembled tadpoles. When pressed between the thumb and finger, the same disagreeable stench was emitted as from the uterine discharge.

From these vermin, she was entirely freed, by injections, of a decoction of chamomile flowers, and wormwood, and of olive oil, which were thrown up twice a-day. In this course she persisted for about three weeks; and has never since had any return of her complaints.

V.

A letter from the late Mr William Hewson, F.R.S. and Teacher of Anatomy in London, to Dr John Haygarth Physician in Chester.

My dear SIR,

I Have now a little leisure, and shall endeavour to fulfill my promise, by sending you a sketch of my observations.

The red particles of the blood, improperly called globules, are flat in all animals, and of very different sizes in different animals. In man, they

are small, as flat as a shilling, and appear to have a dark spot in the middle. In order to see them distinctly, I dilute the human blood with fresh serum. My predecessors, not having thought of this, could not see them distinctly. And Leuwenhoeck in particular, imagining a round figure fittest for motion, concluded they must be round in the human body ; though he and others allowed, that, in frogs, &c. where they viewed them distinctly, from the blood being thinner, they were flat. Now, I prove that they are flat in all animals. In the human blood, where these particles are small, it is difficult to determine what that black spot is, which appears in the centre of each. Some have concluded that it was a perforation : But, in a frog, where it is six times as large as in a man, it is easy to shew, that it is not a perforation, but, on the contrary, is a little solid, which is contained in the middle of a flat vesicle. Instead, therefore, of calling this part of the blood red globules, I should call it red vesicles ; for each particle is a flat vesicle, with a little solid sphere in its centre.

I find that the blood of all animals contains vesicles of this sort. In human blood, there are millions of them ; and they give it the red colour.

But,

But, in insects, they are white, and less numerous in proportion than in man and quadrupeds. As they are flat in all animals, I suspect that shape is a circumstance of importance ; but it can be altered by mixture with different fluids. And I find, that it is by a determinate quantity of neutral salt contained in the serum, that this fluid is adapted to preserving these vesicles in their flat shape : For, if they be mixed with water, they become round, and dissolve perfectly ; but add a little of any neutral salt to the water, and they remain in it, without any alteration of their shape, and without dissolving.

Now, when it is considered, that the blood of all animals is filled with these particles, we must believe that they serve some very important purpose in the animal oeconomy ; and since they are so complicated in their structure, it is improbable they should be made by mechanical agitation in the lungs, or blood-vessels, as has been suspected, but probably have some organs set a part for their formation. This I shall endeavour to prove, when I have explained their structure a little more particularly, and mentioned the manner in which I exhibit it. I take the blood of a toad, or frog, in which they are very large ; I mix it
with

with the serum of human blood, to dilute it ; I find them appear all flat ; so they do in the blood-vessels of this animal ; as I have distinctly seen in the web between its toes, whilst the animal was alive, and fixed in the microscope. Their appearance in these animals is not unlike slices of cucumber. I next mix a little of the blood with water, which immediately makes them all round, and then begins to dissolve them whilst they are round. I incline the stage of the microscope, so as to make them roll down it ; and then I can distinctly see the solid in the middle fall from side to side, like a pea in a bladder. A neutral salt, added to them at this time, brings them back to their flat shape : But, if the salt be not added, the water gradually dissolves away the vesicle ; and then the little sphere is left naked. Such is the composition of these particles. I have exhibited these experiments to a considerable number of my acquaintance, who all agree in their being satisfactory.

The microscope I use is a single lens, and therefore as little likely to deceive us as a pair of spectacles, which, as is allowed by all who use them, do not disfigure objects, but only represent them larger.

From

From farther experiments, I am convinced, that the use of the thymus and lymphatic glands, is to make the solid middle pieces; and I can prove it in as satisfactory a manner as you can do the use of any viscus in the human body; that is, by opening these glands, and examining the fluid contained in their cells, which I find to be full of these little solids. I moreover find, that the lymphatic vessels take them up from those glands, and convey them into the blood-vessels, which carry them to the spleen, in whose cells they have the vesicles laid over them; so that the thymus and lymphatic glands make the central particles, and the spleen makes the vesicles that surround them. That this is the use of the spleen, appears from examining the lymph which is returned from it by its lymphatic vessels, which are its excretory ducts; for that lymph, contrary to what is observed in other parts of the body, is extremely red.

But, besides having these glands set a part for making the red vesicles of the blood, I find, that they are also made in the lymphatic vessels in different parts of the body, whose coats have blood-vessels properly constructed for this secretion. So that the thymus and lymphatic glands
are

are no more than appendages of the lymphatic system, for making the middle particles ; and the spleen an appendage to the lymphatic vessels, for making the vesicles which contain these middle particles.

I conjecture that it is the coagulable lymph which is converted into this red part of the blood, from a curious fact that has been long known, namely, that the blood in the splenic vein does not coagulate, when exposed to the air, as the blood of other veins does ; so that it seems to be robbed of its coagulable lymph in passing thro' the spleen.

It is very remarkable, that the spleen can be cut out of an animal, and the animal do well without it. I made the experiment on a dog, and kept him a year and a half, without observing his health the least impaired. From this, some have concluded the spleen to be a useless weight, which is absurd ; when we consider, that all animals with red blood have it. Therefore it is more consistent with what we know of the animal oeconomy, to conclude, that, since an animal can do well without it, there is probably some part of the body that can supply its place.

Insects

Insects have vesicles constructed in a similar way to ours, but differing in colour. But insects have neither spleen, thymus, nor lymphatic glands; and therefore in them probably these vesicles are entirely fabricated in the lymphatic vessels. But, to us, and other of the more perfect animals, besides the lymphatic vessels, nature has given those glands, that a proper quantity of those important vesicles might be the better secured to us, just as she has given us two ears, the better to secure to us hearing through life, though we can hear perfectly well with one.

Thus, my dear friend, I have given you a sketch of my new opinions. I rather expect from this merely to gratify your longing, than to convince you; for the subject is too intricate to be communicated in a letter; but I make no doubt of proving these positions, when I have leisure to handle the subject more fully. Adieu. Believe me ever

Sincerely your friend,

WM. HEWSON.

London, July 19. }
1 7 7 3 }

SECT.

S E C T. III.

Medical News.

THE nature of phosphorus, and the method of preparing it, is a subject, which of late has much engaged the attention of chymists. From the following account, which has been communicated to us by the learned and ingenious Dr Henry Gahn of Stockholm, it appears, that it may be prepared from animal bones: And the process for obtaining it from these is less disagreeable than that formerly practised with urine.

In Mr Scheele's paper on the acid of spar, it is affirmed, that the earth of animal matter consists of a calcareous substance, combined with the acid of phosphorus. This was first discovered by Mr J. G. Gahn, and has since been farther

ther confirmed from new experiments, both by him and by Mr Scheele. They thought of making phosphorus in this way ; but the great difficulty seemed to be the separation of the acid from the animal earth. Could this be effected, they imagined it would be easy to form a phosphorus, by combining the acid with some inflammable matter.

Calcined hartshorn, pounded and mixed with charcoal, gave no phosphorus by distillation. This was to be expected, as the salt made from the acid of phosphorus and fixed alkali gives no phosphorus ; and this acid has a still stronger attraction to calcareous earth than to alkali.

The easiest method of obtaining this acid seemed to be, to digest the hartshorn by the acid of vitriol ; and, after that, to wash off, by water, the acid of phosphorus which had then got loose from the earth. But, in this operation, every small particle of the hartshorn is soon covered by a selenitical crust, which prevents the acid of vitriol from acting any further upon it. From this circumstance, they were led to think of employing the acid of nitre ; although, by using it the process is necessarily rendered more complex.

Calcined

Calcined and well pounded hartshorn was dissolved in the acid of nitre, by the assistance of heat, till the acid could dissolve no more. This, although a saturated solution, tasted sour, which probably depended on the acid of phosphorus being set loose from the earth, and mixed with the solution. This solution was diluted with three times its quantity of water; and to it was poured in drops, till no farther precipitation could be observed, the acid of vitriol in a state equally diluted. The whole was then filtrated, and the acid well washed from the selenites, which remained on the filter. What came through the filter, consisted of the acid of nitre mixed with the acid of phosphorus. To get rid of the former, the mixture was put upon the fire to evaporate; and when it began to smell of the acid of nitre, it was put into a retort, and distilled to dryness. The acid of nitre only went over; and what was thus obtained was very fit for use in similar trials. What remained dry in the retort was dissolved in water, by the assistance of heat, and then filtrated, with a view of separating any small particles of selenites, which might have remained, and fallen to the bottom during the distillation.

In

In this manner the acid of phosphorus was at last obtained by itself. To make phosphorus of this acid, it was again evaporated to the consistence syrup, and as much pounded charcoal mixed with it as to make nearly a dry mass. This was put into a glass retort, covered on the outside with clay, and distilled in an open fire, till the whole was red hot. The recipient was filled with water, and the neck of the retort was adapted to it, so as nearly to reach the surface of the water. First of all, there came over phlegm, then a volatile spirit of sulphur, afterwards a very little sulphur; and, lastly, a very clear and good phosphorus, which fell down in the water in the form of drops.

Less heat is required to form sulphur than phosphorus. The more selenites that remains in the acid, the less phosphorus is got. If calcined hartshorn, acid of vitriol, and charcoal, be mixed, a considerable quantity of sulphur is obtained on distillation, but no phosphorus. The same products are obtained from bones as from hartshorn.

* * * * *

The public have lately been favoured with many judicious observations on hospitals in general, and with a particular detail of the success attending the practice of physic in different ones. As the subject well merits attention, we presume that a general abstract of the termination of the diseases of those patients, who, for several years past, have been admitted into the Royal Infirmary at Edinburgh, will be by no means disagreeable to most of our readers.

In the hospital, January 1. 1762	109
Admitted during the years 1762,	
3, 4, 5, 6, 7, 8, 9.	6261
Total	6370

Of that number, there were dismissed,

Cured	4394
Relieved	540
For irregularities	106
At their own desire	732
Incurable	108

Dead

Dead	358	
And there remained in the hospital on January 1. 1770	132	
Total	—	6370

State for the Year 1770.

In the hospital January 1.	132	
Admitted during the course of that year	1170	
Total	—	1302

Of these were dismissed,

Cured	791
Relieved	188
For irregularities	23
At their own desire	91
Incurable	7
Dead	57

And there remained in the hospital January 1. 1771	145	
Total	—	1302

State for the Year 1771.

Number in the hospital on January 1.

145

Admitted during the course of that year

1454

Total — 1599

Of these there were dismissed,

Cured 1071

Relieved 206

For irregularities 11

At their own desire 90

Incurable 12

Dead 66

And there remained in the hospital, on January 1. 1772

143

Total — 1599

State for the Year 1772.

In the hospital on January 1.

1772

143

Admitted

Admitted during the course of
that year

1447
Total — 1590

Of these there were dismissed,

Cured	1078
Relieved	180
For irregularities	11
At their own desire	84
Incurable	10
Dead	54

And there remained in the hospi-
tal January 1. 1773

173
Total — 1590

State for the Year 1773.

In the hospital on January 1.

1773 173

Admitted during the course of
that year

1709
Total — 1882

Of these there were dismissed,

Cured	1392
G 3	Relieved

Relieved	158
For irregularities	5
At their own desire	39
Incurable	21
Dead	79
And there remained in the hospital	188
Total	1882

* * * * *

Although, from the diversity of causes, by which epilepsy may be induced, it is not to be imagined that any remedy will ever be discovered, which can be successful in every case; yet, it must give real pleasure to every humane practitioner to be possessed of one, which may be of benefit in some cases. And, although the flowers of zinc have often failed in the hands of the most skilful practitioners; yet their success, in particular instances, is too well vouched to remain a matter of doubt. A farther proof of their efficacy is afforded, in a letter from Dr Rush at Philadelphia, to Dr Duncan, which contains also some other articles of medical news.

“ The

“ The zinc has succeeded in one case to my wishes. Mr D—— P——, a worthy merchant of this city, had been affected with epileptic fits for ten or twelve years. He was once relieved by a voyage to Britain, where he remained above a twelve-month. Soon after his return, he was attacked with his old disorder, but with less violence than formerly. The ordinary interval between his fits was six weeks. At one time only, he escaped them for three months. He had taken a variety of medicines from physicians of the first note, on both sides of the water, to no purpose. It is now fifteen months since he began to take the flowers of zinc, during which time, he has had no return of his disorder, and enjoys, in every respect, good health and spirits.

“ We have lately had a disorder among us, which is new in this country. It is the fifth species of Dr Cullen’s cynanche. Dr Tissot describes it in a particular manner in his Advice to the people. It was at first mistaken for the putrid fore-throat. But the ill success, which attended the exhibition of bark and wine in it, soon convinced us that it was not of a malignant nature.

ture. What led to this mistake was, that there were ulcers much oftener seated in the tonsils than behind the ears ; and they were often covered with phlegm, which resembled sloughs. I followed strictly Dr Tiffot's method of cure, that is, I bled in severe cases, vomited, purged, and blistered, as the symptoms required. I forbid stimulating food of all kinds, and kept up a gentle perspiration, with diluting drinks. This treatment I found successful in every case to which I was called.

“ There is now a society established in the city of Philadelphia, for innoculating poor children. It consists of twelve managers and eight physicians. The former provide medicines, and, in some cases, firewood and other necessaries ; and the latter inoculate, and attend the poor at their own houses. The benefit of this institution to the community is great, and the expence and trouble very trifling. The managers receive applications from the poor in their turns. Each physician is confined to a particular part of the town, which is most contiguous to his dwelling house ; so that the whole is conducted with as much regularity as an hospital, without any of its disadvantages. The scheme of this institution was suggested, by
ob.

observing, that, in the year 1773, above three hundred people, out of fourteen hundred, died of the small-pox, in the natural way, in this city. The greatest part of these were poor people, who could not afford the expence of inoculation."

* * * * *

A gentleman, on whose integrity and accuracy our readers may rely, has favoured us with the following account of a curious circumstance, respecting the teeth of a country-labourer. This man, who was an inhabitant of the town of Hawick, in the south of Scotland, lost all his teeth by the time he arrived at the sixtieth year of his age. But, about half a year afterwards, a new set made their appearance. All of them appeared within the space of twenty days; but, during this time, he suffered the most excruciating pain. His new set of teeth continued fresh and firm for a period of thirty-four years. He is still alive, has entered the ninety-sixth year of his age, and has all his teeth, excepting three, which he has lost within these two years, one of them very lately.

The

* * * * *

The royal society of London have conferred their annual gold medal on John Walsh, Esq; whose ingenious observations on the electric property of the torpedo appeared in the LXIII. volume of the Philosophical transactions *.

At the annual election of the royal society of London, the officers of last year were continued; which was also the case with the royal college of Physicians of Edinburgh.

An ingenious gentleman in York-shire, who is at present engaged in writing a treatise on the study of natural history, has, we are informed, invented a new method of preserving fishes and insects. We have also heard, that an eminent physician of the city of York has collected many useful observations on the worms which infest the human body; and it is hoped that they will soon be published.

* Our readers were presented with an analysis of that paper in our last number.

S E C T.

S E C T. IV.

List of New Books.

THE anatomy of the gravid uterus, exhibited in thirty-four plates. By William Hunter, M. D. physician extraordinary to the Queen, professor of anatomy in the royal academy, and fellow of the royal and antiquarian societies. Folio, London.

The commentaries upon the aphorisms of Dr Herman Boerhaave, the late learned professor of physic in the university of Leyden, concerning the knowledge and cure of several diseases incident to the human body. By Gerard Van Swieten, M. D. translated into English, vols XV. XVI, XVII. and XVIII. 8vo London.

A

Les avantages de l'inoculation, et la meilleure methode de l'administrer, ouvrage traduit de la dissertation Latine, couronnée par l'academie royale des sciences, inscriptions, et belles lettres de Toulouse, et composé par M. Camper, M. D. professeur d'anatomie, de chirurgie, et de medecine dans l'université de Groninguen, des academies de Paris, de Londres, de Harlem, &c. 8vo, Toulouse.

The history and effects of the aloedarian drops, an antient medicine ; for the decays of early age and ruined constitutions ; for disorders of the stomach ; and for chronic diseases, which thence derive their origin. From the papers of a physician. 8vo, London.

Further observations on lightning ; together with some experiments. By Benjamin Wilson, F. R. S. &c. Communicated to the royal society, and rejected in the committee. 4to, London.

A voyage towards the North Pole, undertaken by his Majesty's command. By Constantine John Phipps. 4to, London.

Observations on the use of Dr James's powder, and other antimonial preparations in fevers. By William White, F. S. A. and of the medical society of Edinburgh. 8vo, London.

Of

Of temperance and intemperance, their effects on the body and mind, and their influence in prolonging and abbreviating human life. By Edward Harwood. 12mo, London.

The electrical philosopher, containing a new system of physics, founded on the principles of an universal plenum of elementary fire; wherein the nature of elementary fire is explained, its office pointed out, its extensive influence and utility in explaining many of the phaenomena of nature shewn, and the grand desideratum, viz. the cause of gravity, cohesion, &c. &c. which has been hitherto either entirely given up as inexplicable, or else sought after in vain by the most able naturalists, is at length obtained by R. Lovett lay-clerk of the cathedral-church of Worcester. 8vo, Worcester.

A letter to Dr William Hunter physician extraordinary to the Queen, professor of anatomy in the royal academy, and fellow of the royal and antiquarian societies, on the dangerous tendency of medical vanity, occasioned by the death of Lady Holland. By William Rowley, M. D. and man-midwife. 8vo, London.

Thermis de Borboniensibus apud Campanos, specimen medico-practicum, five de legitimo cir-
ca

ca illos tractatu practico prolegomena. 4to, Chaumont.

Jacobi Reinboldi Spielman, Doct. et Prof. med. &c. Institutiones materiae medicae praelectionibus academicis accommodatae. 8vo, Strasbourg.

Elements de chirurgie en Latin et en François, avec des notes. Par M. Sue le jeune, prevot designé du college de chirurgie, adjoint au comité perpetuel de l'academie royale de chirurgie, chirurgien ordinaire de l'hotel de ville, correspondant de la societé royale des sciences de Montpellier, &c. 8vo, Paris.

Lettre a M. Roux, docteur regent de la faculté de Paris, &c. Par M. D——— concernant le remede antivenerien de M. Lafont, chirurgien du roi, d'apres les experiences faites par ordre de de M. le Lieutenant-general de police. 8vo, Amsterdam.

Memoire chymique et medecinal sur les principes et les vertus des eaux minerales de Contrexeville en Lorraine. Par M. Thouvenel, docteur en medecine de la faculté de Montpellier. 12mo, Nancy.

Differ.

Differtation sur l'usage des caustiques pour la guerison radicale et absolue des hernies, ou descentes, de facon a n'avoir plus besoin des bandages pour le reste de la vie. Par M. Gauthier, counseiller-medecin du Roi, docteur-regent de la faculté de medecine de Paris, et medecin de Montpellier. 12mo, Paris.

De proctostenia, seu morboſis intestini recti angustiis, differtatio medica, quam in Ludovico Monſpeliensi propugnabat author Ludovicus Franciscus Jourdam Duchadoz. 4to, Montpellier.

Raport fait par ordre de l'academie des sciences, sur la mort du Sieur le Maire, et sur celle de son epouse, causées par la vapeur du charbon ; avec des observations sur les effets des vapeurs mephitiques sur le corps de l'homme, et sur le moyen de rapeller a la vie ceux qui en ont été suffoques. Par M. Portal, professeur en medecine au college royale, medecin de M. le Comte d'Artois, de l'academie des sciences de Paris, de l'institut, de Bologne, de la societé royale de sciences de Montpellier, et de la societé medicale d'Edinbourg. 8vo, Paris.

C O N-

C O N T E N T S.

B O O K S.

<i>Pereboom, Cor. De paralyfi imprimis nervea differtatio</i>	9
<i>Hallenberg, G. Differtatio medica de dulcamara</i>	15
<i>Wedenberg, Ad. Frid. Differtatio de stramonii usu in morbis convulsivis</i>	18
<i>De Luc, J. A. Recherches sur les modifications de l'atmosphere, tome 2.</i>	25
<i>Hewson, William. Experimental inquiries, part 2.</i>	32
<i>Wilson, Alexander. Observations on solar spots</i>	46
<i>Simmons, S. F. An account of stones voided through a fistulous sore in the loins</i>	51
<i>Hunter, John. An account of certain receptacles of air in birds</i>	53
<i>Bouvet, M. Observation sur une Pierre de la matrice</i>	58
<i>Majault, M. Dissertation sur l'operation de la fistule a l'anüs</i>	61
<i>Hendy, Jac. Tentamen physiologicum de secretione glandulari</i>	63

M E D I C A L O B S E R V A T I O N S.

<i>Observations on the medical virtues of lead. By William White, F. A. S. Surgeon in York</i>	72
<i>A remarkable case of Deafness cured by Salivation. By Mr Robert Gordon Surgeon to the 54th regiment</i>	80
<i>The History of a Case in which some of the Vertebrae were found dissolved. By Mr Benjamin Bell Surgeon in Edinburgh</i>	82
<i>A peculiar Case of a species of Maggots being discharged from the Uterus during Menstruation. By Mr Thomas Cockson Surgeon at Campden</i>	86
<i>A Letter from the late Mr William Hewson, F. R. S. and teacher of Anatomy in London, to Dr John Haygarth Physician in Chester</i>	87

MEDICAL NEWS	94
--------------	----

LIST OF NEW BOOKS	107
-------------------	-----

M E D I C A L
A N D
P H I L O S O P H I C A L
C O M M E N T A R I E S.

By a SOCIETY in EDINBURGH.

Exiguo includere libro aggredior opus non meas tantum, sed humani generis, vires egrediens. In eo, si non omni respondeo expectationi, veniam; imo, si alicui laudem mihi polliceor a bonis.

CLUVERIUS.

VOLUME THIRD.

PART II.

L O N D O N :

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M,DCC,LXXV.

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PHIL. O. O. N. L. O. A.

M E D I C A L
C O M M E N T A R I E S.

S E C T. I.

An Account of Books.

I.

*Observations on the Use of Dr James's Powder,
and other antimonial Preparations in Fevers.
By William White, F. A. S. and Member of
the Medical Society of Edinburgh. 8vo, Lon-
don.*

THE principal intention of the observations contained in the present volume is, as the author expresses himself in the preface, "to recommend a more general and early exhibition of antimonial medicines in fevers." The work contains six sections. The first of these is employed in giving a general medical history of antimony, and its preparations. James's powders

and tartar emetic, the two preparations in general use, are, as he alledges from experience, equally efficacious, when properly prepared ; but he prefers the Tartar emetic, because he knows its strength, and can calculate its dose with exactness and precision.

In the second section, the author accounts for the febrifuge effects of antimonials, provided a gentle and continued nausea be maintained. They have their effects equally when no sensible evacuation takes place, as when an evacuant effect is the consequence. The spasmodic constriction on the surface of the body is frequently removed in a wonderful manner ; this appears to be effected by some peculiar action on the nerves of the stomach, which is communicated by sympathy to the surface. This effect being induced by tartar emetic, or James's powder, fresh feverish paroxysms are to be obviated by tonics, and medicines that diminish irritability, especially by the Peruvian bark.

In the third section, we are presented with some general observations upon the causes of fevers, their symptoms, and general cure. The symptoms are arranged after the manner of Dr Fordyce. After observing, that most fevers are
distinguishable

distinguishable into three stages; the first preceeding the hot fit, denoting spasm or debility; the second, or the hot fit, denoting increased action and spasm; the third, or crisis, attended with relaxation and increased action. He relates the symptoms attending these three stages. From an attention to the symptoms of the first stage, our author thinks the nature and future progress of the disease may often be foretold. In order to point out this method, he distinguishes the symptoms as depending upon a morbid affection of two distinct systems, the nervous and the vascular. With respect to the cure of the first stage, if the symptoms be so violent as to threaten life, they are to be taken off by relaxants, as antimonials and the warm bath; by stimulants, as blisters and sinapisms; and by a cordial regimen. In the second stage, when danger is apprehended from the strong action of the vessels, it is to be obviated, and nature assisted, by bleeding; by sedatives, as antimonials, neutral salts, acids, saline laxatives or glysters, low diet, plentiful dilution, pediluvia, or a prudent use of opiates. In detailing the symptoms of, and remarks on, the third stage, Mr White observes, that the more violent the cold fit, the more remarkable the succeeding hot one; and the greater the lat-

ter, the more evident the crisis. This section is concluded with an account of the symptoms denoting inflammatory diathesis, and those expressing weakness and irritability, with the means of obviating these in particular, and the regimen of fever in general. Inflammatory diathesis is removed by bleeding, antimonials, neutral salts, low diet, warm bathing. When the symptoms of weakness and irritability appear, a fuller diet and a cordial regimen, wine, musk, volatile alkali, camphor, serpentaria, &c. are indicated; and, at the end of the fever, the Peruvian bark, and the action of cold. With regard to the regimen of fevers, the diet should be in general vegetable, tho' the cravings of patients are to be gratified; the patient should breathe a pure and temperate, or cool air; in order to obtain which, garden-pots, with plants growing in them, may be placed in the sick person's room. Great attention to cleanliness is recommended; and the convalescent will be assisted in his recovery, by an entire change, not only of his own clothes, but also of his bed and room.

In the fourth section, our author enters upon a more circumstantial account of the different kinds of fever, in which he adopts the plan of arrangement

ment and characters published by Dr Cullen in his *Nosologia Methodica* of the Febrile diseases. Of the diseases in that work, two orders only, the Fevers, properly so called, and Phlegmasiae, or those attended with topical inflammation, are considered by our author. In intermittents, the crisis, or last stage of fever, is so complete as to leave the patient perfectly free from disease; but, unless the irritability of the system be taken off by the cortex, &c. the fever, according to its type, returns. An artificial crisis not being wanted in this disease, it follows that antimonials are not indicated. In remittents, besides pure air, cleanliness, and a good diet, the primae viae are to be unloaded by emetics and gentle purgatives, and then the fever to be reduced to the form of an intermittent, by antimonials and neutral salts; this being effected, the cure is to be finished by the cortex. But, where symptoms of weakness and putrid diathesis make a rapid progress, the life of the patient depends upon an early and plentiful exhibition of the cortex, without having regard to remissions.

The fifth section commences with Mr White's observations on continued fevers. Besides the three genera of continued fevers, synocha, ty-

phus, and synochus, there are cases occurring in practice, which it is not easy to say whether they ought to be referred to the inflammatory, nervous, or putrid fever; they seem to be a compound of the three. In synocha, antimonials act in a manner specific; they are to be given after proper evacuations of blood, in such doses as to promote a gentle vomiting.

The typhus, when malignant, differs from the real plague only in degree, and arises from the same causes, only less powerfully applied; every medium of infection, and every source of filth, must be removed; the primae viae are to be purged by gentle emetics and purgatives. Wine, Bark, and the indulgence of the appetite for malt liquors are also of considerable service. In synochus, one bleeding at the commencement is generally useful, after which the remedies mentioned for the typhus are to be exhibited; but, when considerable symptoms of putridity appear, mineral acids, fixed air, cold, and other antiseptics must be administered.

In the sixth, and last section, the second order of fevers, the Phlegmasiae, are considered.

The

The common phlegmon and ophthalmia seldom are so violent as to affect the system in general, or require antimonials.

In the phrenitis, bleeding, general and topical, saline purgatives, pediluvium, and antimonials, as in inflammatory fevers, are recommended.

The cynanche consists of eight kinds, four of which, in general, yield to bleeding, purging, blisters, and frequent gargling. The second species, the cynanche maligna, is to be treated as the putrid remittent fever.

In peripneumonia, pleuritis, and carditis, the cure is to be effected by frequent and copious bleeding, antimonials directed to the surface, blisters, and expectorants.

The pleurodyne rheumatica yields to fomentations, volatile liniments, and blisters; the peritonitis is to be treated as the peripneumonia, &c.

In the gastritis, internal medicines can seldom be given, and the cure depends upon the warm bath, bleeding, fomentations, and blisters. When the disease is caused by the swallowing of poisons, they must be sheathed and corrected. If corrosive sublimate has been taken, the swallowing a weak
solu-

solution of any fixt alkaline salt will decompose it, and render it inert.

Enteritis is a disease which frequently proves fatal in twelve hours, always before the third day, if not assisted by art. Large and repeated bleeding, antimonials, joined with opiates, warm bath, pediluvium, purging, glysters, and blisters, are the remedies by which this affection is to be overcome.

Mr White has had two cases of this disease, where the inflammation was so violent as to be attended, from the first attack, with cold sweats, weak trembling pulse, coldness of the extremities, and a cadaverous countenance. Under these calamitous circumstances, the patients appeared to be saved by being put immediately into the warm bath, and kept there, till either the pulse rose, or faintness supervened. The emetic tartar, combined with laudanum, was given in considerable doses, and frequently repeated. One patient bled freely in the bath, a vein being opened without effect before its use. After the patient is taken out of the bath, he must be laid in warm blankets, and sweating encouraged by repetition of the bath, emetic tartar, and laudanum. A large blister must be applied to the abdomen. In all cases of enteritis, Mr White says, we should recollect that the disease may be caused by a stran-

strangulation of the intestine, which requires the hand of a surgeon.

In treating the hepatitis, our author observes, that the pain on the top of the shoulder is not a pathognomonic symptom of an inflamed liver ; it frequently occurs when parts adjoining to the liver are affected, and is felt when a part only of the liver is inflamed. Two different sets of symptoms attend this disease, according as the inflammation is seated in the substance or membranous covering of the liver. In general, the remedies of other inflammations are here proper ; in some cases, cicuta, bitters, and opium. In the splenitis, nephritis, cystitis, hysteritis, antimonials, and the remedies of inflammation in other parts of the system, are exhibited. In the acute rheumatism, the remedies of inflammation, in general, are recommended, and nitre, to the quantity of an ounce in twenty-four hours. Relapses may be prevented by sea-bathing. In chronic rheumatism, the medicines for inflammation are improper ; and Mr White only here observes, that an ounce or two of sal diureticus has soon cured very bad cases, which withstood every other treatment.

After observing that antimonials seem, *a priori*, to be indicated in the inflammatory gout,
and

and not in the chronic, he gives the indications of cure for arthritis from Dr Gregory's Elements of the Practice of Physic.

II.

A Treatise on Childbed-fevers, and on the Methods of preventing them. Being a Supplement to the Books lately written on the Subject. To which are prefixed two Dissertations, the one on the Brain and Nerves; the other on the Sympathy of the Nerves, and on different kinds of Irritability. By Thomas Kirkland, M. D. 8vo, London.

IN an advertisement prefixed to this treatise, Dr Kirkland informs his readers, that it was written in consequence of a letter he had received from Mr White of Manchester; and that practice has led him to view the subject of childbed-fevers in a different light from the gentleman mentioned above, and some other late writers on the same subject. He therefore hopes, that the present treatise may be a useful supplement to their works.

In the dissertation on the nerves, the author observes, that, from the idea of their being chords,

chords, much false theory has arisen. He points out the inconsistency of authors; for, while they talk of the brain being a mucus, they also tell us, says he, that its fibres form the nerves, through which the nervous juice passes to every part of the body. Dr Kirkland examined the brains of hares, sheep, and oxen; and, from the appearances, he seems inclined totally to reject Haller's opinion, that the structure of the brain and nerves is fibrous. In whatever manner, says he, the examination of the brain is conducted, it appears to be a mucous or gelatinous substance of a particular kind, cohering firmly together; and he alledges, that, to Haller himself, when he saw the brain without knowing it to be so, it appeared like a *mucus*. He observes, that the optic nerve, in going out of the skull, has not the least fibrous appearance, but seems to be the mucous substance he describes; and, when it deposits its coat formed by the dura mater, it is spread unchanged for the purposes of vision. This, he thinks, is proved from laying the retina in soap-lees; it soon becomes ropy, and acquires more the appearance of the white of an egg, than of any other substance he can compare it to. Dr Kirkland further remarks, that the tying, or destroying one particular nerve, does
not

not destroy the sensation of the part to which it belonged ; he therefore considers this as a farther proof, that the nerves serve the purpose of diffusing the substance of the brain through the body ; and, without such diffusion, he thinks it impossible for the nerves to supply the muscular and other fibres. To this reasoning he adds the test of experiment ; for, by comparing the medullary part of the brain with the retina, with the olfactory and auditory nerves, the nerves of the limbs, and with the mucus, which is very thinly spread on the muscular fibres, by the help of a good microscope, he finds them all to have the same appearance. The irritation of the medullary part of the brain is attended with universal convulsions ; that of a nerve, with the convulsion of a neighbouring muscle ; the irritation of the gelatinous substance covering a muscle, with the convulsion of the muscular fibres, which evinces that they are all the same substance, viz. the brain ; which therefore appears the only irritable part of the body. Our author runs a comparison between the blood-vessels and nerves, that, as the former convey blood, so, in like manner, in the latter, the dura and pia maters form tubes, that conduct and diffuse the medullary substance of the brain through the body. He allows, that a secretion is made by the cineritious part of the brain from
the

the lymphatic arteries, for the nourishment of the medullary part ; but maintains that this last, whether seated in the head, or different parts of the body, is the receiver, the seat, and conductor of every kind of sense. But he concludes, that the manner in which it perceives, or communicates sensation, or its effects to other parts, may, after all, be among those secrets in nature which it is hard, or perhaps impossible, to discover.

The sympathy of the nerves, is the subject of the second dissertation. On this subject, Dr Kirkland wishes to be understood, when speaking of the nerves, to mean the brain, conducted in the dura and pia mater, and extended to every part of the body. From his practice and experience, he is confirmed, that involuntary impressions made upon that part of it which covers the muscular fibres, are not only conveyed to the head by the nerves, but that they are immediately conveyed along the diffused brain to every part of the body. This supposition, he thinks, explains the consent betwixt the different parts of the body, easier, and without the difficulties that attend other explanations of the same phaenomenon. For instance, when a wound, says our author, becomes inflamed, the nerves, that is, the
brain,

brain, on the affected part, becomes more irritable, and a fever, with a quicker pulse, is produced, probably from the brain, diffused round the fibres of the heart, becoming, by this consent, more irritable than usual; whence the blood stimulates it with greater force, and a brisker circulation ensues. Several cases of the consent of parts, in consequence of one being irritated, are enumerated; one of a vomiting, arising from the inflammation succeeding to an amputated breast; another, of a vomiting, attending the eruption of erysipelas on the legs; a third, of a violent cough, during the increase of an abscess in the hand and wrist; the fourth, of a tension and foreness over the whole body, from a sprained ankle. These are instances of what our author calls inflammatory Irritability. He mentions instances also of spasmodic irritability. The first a case of tetanus, the consequence of the back part of the heel being torn off; a second, of convulsions, from the disappearing of an eruption on the skin. Dr Kirkland concludes, that he cannot have clearer instances than these cases afford, to show the immediate connection between every part of the brain expanded over the muscular fibres. He expresses an inclination to pursue this subject farther; but, what has been said, he thinks sufficient

ficient for his present purpose, and proceeds to treat of childbed-fevers.

Dr Kirkland, in a preface, endeavours to ascertain what is properly a Puerperal Fever. Every fever, he observes, which arises from any disease, in consequence of pregnancy, and happens during the time of lying-in, may properly be called a Puerperal Fever. He is dissatisfied with those who use the word *puerperal* to distinguish a particular kind of fever, as the most dangerous to lying-in-women, because, by this name, they do not distinguish any one particular disease; for the fever arising from inflammation of the uterus, from absorption of putrid blood from this part, is of the same kind; and as violent and dangerous as that caused by an inflammation of the abdominal viscera, or the absorption of putrid effluvia ab extra. He opposes also the opinion of those, who say that the puerperal fever is caused by an epidemic constitution. Women in child-bed are liable to the prevailing diseases of the season; but how can an alteration, induced on the body by a morbid state of the air, be called a Childbed-disorder? an alteration which happens neither in consequence of pregnancy nor delivery.

He observes, that the variety of appearances found upon dissection, after puerperal fevers, may be owing to various causes; by considering which separately, we may be able to investigate the nature of the fevers which happen to women after delivery.

In the first chapter, Dr Kirkland observes, that, in order to have a clear idea of puerperal fevers, we ought first to examine the puerperal state; and from the symptoms, such as nausea, vomiting, ptyalism, and the influence of slight accidents, he concludes that women, during pregnancy, have an increased irritability, which is still farther augmented during the time of labour. The inconveniencies arising from increased irritability are removed in a week, or less, after delivery, when every thing goes on well. It is in consequence of this irritable state of the uterus, and of the whole system, that women in child-bed are liable to epidemic diseases, which is an observation that has been made ever since the days of Hippocrates. In consequence of this state, our author thinks it not surprising that the muscles and contents of the abdomen, which are in the same state as parts that have been bruised, should be so greatly affected after puerperal fevers, as, upon dissection, they are found to be.

Our

Our author thinks it a certain fact, that, whatever be the cause of puerperal fever, the whole abdomen, within a limited time, is more or less affected; because the belly always turns green or putrid in a very short time after death. Uterine irritability, accompanied with inflammation, seems to be the idea our author entertains of childbed-fevers; and he mentions some cases from practice to this purpose. He does not deny, that inflammation of the contents of the abdomen may sometimes be the cause of childbed-fever, although he does not think, with Dr Hulme, that it is always so. The cases where he would suspect this to be the cause are those, where the quantity of waters has been large, and the uterus suddenly emptied by a hasty delivery, without care being taken, at the same time, to make an immediate pressure upon the belly.

Dr Kirkland assigns, as another cause of puerperal fever, putrid blood, or other putrid matter lodging in the uterus; as also, the absorption of the putrid miasmata of lying-in hospitals. The coming of the milk, inflammation of the breast, absorption of acrid milk, and a retention of excrement, are also considered as distinct causes of puerperal fever, differing in its symptoms according to the cause that produced it.

After enumerating the symptoms of puerperal fever, arising from these various sources, Dr Kirkland proceeds, in chapter second, to treat of the cure of childbed-fevers.

In entering upon the cure of childbed-fevers, Dr Kirkland remarks, that, whatever be the cause of them, there is always more or less of an absorption of putrid matter from the uterus or abdomen, which often produces the symptoms of putrescency, so frequent in these disorders, and to which particular attention must be paid in prescribing. However, in the beginning, an inflamed uterus, except when irritated by putrid blood, must be treated like other local inflammations. But he observes, that bleeding and purging cannot be used in their full force, because they render the patient less capable of undergoing the remainder of the disease. Our author recommends saline sudorifics after bleeding; and observes, that women in child-bed bear evacuations by the skin much better than by the bowels. When sickness and vomiting arise, he is against the use of vomits, as tending only to increase the irritability of the stomach, which gave rise to these symptoms. Opium is recommended in small doses, joined with other necessary remedies in this case. Camphor also, as
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lessening irritability, may be useful in inflammations of the womb. Blisters are recommended by our author, where the inflammation is not very violent; but, where it is, great mischief, he thinks, may be done by them. With a view to illustrate the use of these remedies, our author gives a detail of his practice, when the fever is of the inflammatory kind. When this method fails of success, and a diarrhoea comes on, the disease is become more or less putrid, and a different treatment is required. The diarrhoea is not to be entirely checked; but we are to endeavour to render the matter which irritates the intestines less active, by correcting the state of the fluids, and taking off the increased irritability of the habit. Peruvian bark is here the principal remedy, with laudanum or rhubarb, according to its effect on the diarrhoea. In this stage of the disorder also, when the pulse sinks, and the nervous oppression is manifest, Camphor is a good remedy. Half an ounce of the Camphor julep, repeated every four or five hours, is a sufficient dose. If the diarrhoea, notwithstanding the use of these remedies, becomes violent, Dr Kirkland agrees with Mr White in recommending columbo root. In finishing this part of his subject, our author observes, that a diarrhoea in childbed-women, unattended with fever, may

be always safely suppressed after a dose of rhubarb.

For the fever arising from inflammation of the abdominal viscera, the same treatment is recommended.

But the puerperal fever, arising from the retention of coagulated blood, is more dangerous, as it is quicker in its progress. In this case, after cleansing the bowels, no time should be lost in giving antiseptics, especially the bark. The fever arising from putrid miasmata is to be treated, in the beginning, by administering a vomit, and afterwards giving the bark.

The fever arising from the coming of the milk is seldom dangerous. When the breasts cannot be drawn, Dr Kirkland advises the application of linen cloths, wet in cool-drawn linseed-oil, to preserve the lymphatic vessels in a state capable of carrying the milk back into the circulation. The common termination of this fever, when the tension and inflammation of the breast have been great, is suppuration.

The fever arising from the absorption of acrid milk is more dangerous, and sometimes ends in abscesses in the groin, or other parts of the body. To prevent which, a gentle emetic should be given,

given, to assist nature in throwing off the offending matter, which she frequently does by stool.

The fever arising from retention of excrement proves seldom fatal, unless neglected; because, before it comes on, women have generally undergone that change which renders them less liable to danger.

From the whole of his observations, Dr Kirkland infers, that no fixed rule can be laid down for the cure of puerperal fever; that different causes will always require different treatment; and that, if one method only is used for all kinds of childbed-fevers, death, more frequently than a recovery, will be the consequence of medical assistance.

In the third chapter, our author treats of the prevention of childbed-fevers; and on this subject he proceeds upon the principles laid down in the first part of his treatise. In order to prevent inflammation of the uterus, bleeding, a cooling diet, and antiphlogistics are necessary during pregnancy, if the patient be strong, and so full of blood as to occasion a distension and uneasiness. Bleeding and purging are also necessary, if the symptoms of an inflamed uterus appear under labour.

The extracting the placenta in all cases, by force, is condemned as a bad practice, tending to induce inflammation of the uterus. But, if the after-birth does not come away in due time, and its retention be owing to spasm, opium will be of use in removing the spasm. In very quick labours, pressure upon the abdomen is necessary. This is done by means of a bandage, under which some apply a piece of flannel, which is so far of use, as it promotes sweat, an evacuation which, in our author's opinion, forwards recovery. Sweating much, however, is bad, especially if the patient be much heated in hopes of promoting it. Costiveness is by all means to be avoided. This is done by the use of glysters and the mildest laxatives, as the bowels are more irritable than at any other time. Blood lodges and coagulates in the uterus chiefly when the placenta comes away, before it has time to contract; in order to discharge which, the patient ought to be raised in bed, or even get up, if necessary. The patient ought always to be kept cool and clean. The breasts, too, ought to be drawn, to prevent the fever from the coming of the milk; and also, if they are filled previous to the onset of a fever, they should, upon its first appearance,

ance, be drawn, to prevent the milk becoming acrid, and its being absorbed in this state.

As to preventing hospital or epidemic fevers, our author declines entering on the subject, as much has been said on this head by various writers; and concludes, that no general rule can be laid down for preventing fevers in lying-in-women, except that the prescriber should have a general knowledge in the science of medicine; so that, instead of pursuing one road, he may be able to vary his manner, as particular circumstances require.

III.

Traité de Médecine théorique et pratique; extrait des Ouvrages de M. de Bordeu. Avec des Remarques Critiques, par M. Minvielle, Docteur en Médecine de la Faculté de Montpellier, Correspondant de l'Académie Royale des Sciences de la même ville, un des Médecins du Bearn. 8vo, Paris.

THE name of Mr Bordeu is, we dare say, well known to most of our readers. He has long been celebrated, not more for his eminence as a physician, than for the singularity and novelty

novelty of his opinions on many of the most interesting subjects in medicine. These opinions have, at different times, been subjected to public examination, for the space of forty years past. Sometimes they have been communicated in the form of separate treatises, at others in essays in periodical publications. With some, they have afforded ground for high encomium; with others, for severe criticism. Whatever may be their real merit, the author of the present work, who, although he does not implicitly adopt every doctrine delivered by Mr Bordeu, may justly be ranked among his admirers, has certainly done no unacceptable service to the public, in presenting them with a connected view of the detached opinions of this celebrated author in the form of a system. And we apprehend, that, from the same consideration, our readers will not be dissatisfied with some account of this work. It is with regret, however, that we find it will be impossible for us to satisfy the curiosity of some of our readers, without offending against the patience of others. We shall here, however, endeavour to give such a view as may serve to excite the curiosity of those whom it cannot satisfy; and we must refer them for more ample information to the work now before us.

In the first eleven chapters, the author presents us with Mr Bordeu's general ideas, respecting the animal oeconomy in health. Man, according to his system, is a compound of different organs, which have each, in the living state, a motion, action, and life peculiar to themselves. These parts act and feel to a certain degree at particular times, and repose themselves at others. He considers the general life of the system as the result or sum of the lives of each particular part; and compares it to a cluster of bees hanging by the branch of a tree. Thus, with a celebrated antient, he considers each viscus to be properly *animal in animali*. The most perfect state of health, then, he supposes to depend on a determined action in each organ, and, from variety in these, he imagines all the diversity of temperaments to arise. But there are some functions which must be in common to every system, and which he regards as the foundation and support of life. These are the action of the brain and nerves, the motion of the heart, respiration, and digestion. He considers, therefore, the brain, the heart, and the stomach as so many centers, from which proceed all the effects and actions necessary for every function of life. All these he supposes to depend on the influence of the nervous

vous fibre, differently fabricated and excited in different parts. He considers the action of the nervous fibre, therefore, as having two principal sources, the head, and the middle portion of the body, comprehending the heart, stomach, diaphragm, and intestines.

As the essence of life consists in motion and sensation, he imagines every function to be a mixture of these. There are some functions, in which sensation predominates, where he supposes a soul united to the living body to have the principal share. There are others which he imagines to depend on a sensibility purely vital, without the soul having any concern. The same distinction, he maintains, holds also with regard to those functions chiefly characterized by motion. In some of them the soul has a concern, others are independent of it.

He considers the human machine as containing fibres of one kind only, that is nervous fibres; and imagines, that, on a different disposition of these fibres, all the diversity of organs depends. According to this idea, the nervous fibre is the essential component of the animal; and the other parts, which constitute muscles, membranes, &c. are but secondary, serving only as appenda-

ges to the nerves, or ornaments to the body. He supposes all the other parts to consist of a mucous substance, differently modified by the nervous system.

Respecting the divisions of the body, he remarks, that there are two which particularly claim attention. The first of which, he takes notice, is a division into the right and left sides. These two, he observes, are for the most part disposed in the same manner, and excited to the same tone. But he thinks it easy to prove, from observation, that each has its separate actions and indispositions. The second division which he points out is that formed by the diaphragm. The parts situated above and below that organ admitting of like diversity as was observed to hold respecting the opposite sides.

After these general ideas respecting man, considered as the object of medicine, our author, in his second chapter, gives an account of Mr Bordeu's opinion, respecting what he calls the Epigastric Forces. There is no action of the body without re-action ; no effect without opposition ; and the system of nerves and of membranes are here considered as the principal agents in this communication of action. These, taken together,
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form the general system of forces, which are as numerous as there are functions to fulfil. But these forces he imagines to have a certain center of determination, towards which they are particularly propagated, and from whence they in general receive the most considerable degree of tension and of action. This center he imagines to be in the epigastric region. The force of action and of re-action, which this region possesses, depends on those of the diaphragm, the stomach, and intestines. These viscera, he endeavours to shew, act not only upon all other parts of the animal, but oppose to every other action a mutual effort, on the equilibrium of which the health of the individual depends. And besides this double action, he farther imagines, that the epigastric force has considerable influence, both in sensation and motion, which are the subjects of inquiry in the third chapter.

With regard to sensation, he believes that every nervous prolongation has its proper function, and possesses an inherent sensitive faculty, which is the true agent and vehicle of sensation, and that, of consequence, the different parts of our body are susceptible of a general feeling of pleasure or pain. He believes, that each of the viscera enjoy a species of instinct from slight irritation,

tation, by means of which they choice and relish aliment, or other matters of any kind transmitted to them ; that they retain such as are useful, and reject those not fitted to their constitution. He holds, however, that every thing respecting sensation is regulated by a soul purely spiritual, which vivifies the nervous system ; and that it is at the origin of the nerves that this soul principally exercises its action. He imagines, that the medulla oblongata and spinalis, are the chief centers where this connection is properly marked ; and he maintains, that the epigastric region is also a point where sensation in a remarkable degree manifests itself ; in testimony of which, he adduces the lively impression which is felt there from acute pain, or any violent passion of the mind.

According to Mr Bordeu, every part of the body is more or less capable of motion. He divides its motions into two kinds, tonic and muscular. Tonic motion is constantly exercised ; it compresses and condenses parts, and ought to be regarded as superadded to simple elasticity. Muscular motion he considers as an augmentation of the force of fibres already in action. He maintains, that the epigastric forces undergo a considerable change on every motion of the body ;

dy; and observes, that no considerable effort can be exerted, without our being sensible of an effort towards the region of the diaphragm. He farther observes, that we feel a sense of lassitude in this region, when the body is no longer in a condition to sustain the continuance of any extraordinary effort.

The principle of life, which Mr Bordeu supposes to exist in every organ, he employs for explaining the functions of secretion and excretion, which are the subjects of the fourth chapter. He imagines, that, in both, there takes place a peculiar action; and he illustrates them by the phaenomena attending the discharge of semen, and the secretion of milk.

He adopts the same principle in the fifth chapter, for establishing an action peculiar to the uterus, particularly in the menstrual flux. And when the uterus itself does not perform this action, he imagines that some other may supply its place; which he thinks proved by the discharges vicarious to the menses occurring from different parts of the body. The function of digestion, of which our author treats in his sixth chapter, Mr Bordeu supposes also to be chiefly the effect of a peculiar action of the stomach; and upon
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this principle he explains all the varieties which we observe in different individuals, respecting a strong inclination for some food, and aversion at others, hunger, loathing of aliment, &c. All these he supposes to proceed from different modifications of the nerves.

Besides these discussions, particular chapters are bestowed, in the theoretical part of this work, on what our author calls the different department of organs, on the periodical action of parts, on circulation, on cellular texture, and on the communication of the different parts of the cellular membrane. But, from what has been already observed, we apprehend that our readers may form some idea of Mr Bordeu's sentiments respecting the animal oeconomy. In the twelfth chapter, our author delivers Mr Bordeu's sentiments respecting diseases in general, but more especially the acute; and to this part of the work we now proceed.

Mr Bordeu defines disease to be a disturbance excited in the exercise of functions, by a lesion of the primitive action of organs, which may either be faulty from defect, or excess, in their operation. This lesion he supposes to depend principally on an alteration of the equilibrium of

action which ought to subsist among the epigastric viscera, the stomach, intestines, and diaphragm. After this general idea, he divides diseases into those which immediately and essentially affect the stomach, and those which affect the diaphragm, and organs connected with it. He admits also of mixed affections, or such as depend both on the one and the other source. But he arranges them under the diseases of the department of the stomach, or of the diaphragm, according as an affection of the one or the other predominates. He denominates the diseases referred to the stomach regular and humoral, those to the diaphragm, irregular and spasmodic.

The causes disturbing the equilibrium of the stomach are the weight of the aliment, or of fluids loading and distending it ; or the irritation arising from vitiated contents. Those which disturb the diaphragm, or phrenic forces, are sensations and passions of the mind, and violent efforts made by the abdominal viscera against the diaphragm. The effect which these lesions produce, in the case of chronic diseases, proceeds slowly and insensibly ; whilst, in the acute, it has a quick and expeditious progress. Besides these, he considers two other states in diseases, the violent and the moderate ; and explains both, from
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there being a greater or less degree of alteration in the epigastric forces.

In every disease, certain periods are observed; these Mr Bordeu reduces to the three following. The first he terms the period of irritation; the second of maturation; and the third of evacuation. These three periods are sometimes separated by distinct intervals, and have a regular and uniform progress; at other times, they are complicated and confounded with each other. The first is the case in mild, simple, and regular diseases; the last in anomalous, complicated, and irregular affections. He considers art in general as curing diseases, by preparing and conducting the crisis; or, which is the same thing, by conducting the symptoms in such a manner as may lead to a happy crisis. The labour of a physician, then, consists in rendering the crisis free and determinate.

After these remarks on diseases in general, our author proceeds to particulars, and first treats of the malignant fever. This he considers to be a very complicated disease, and thinks it plainly proved, from examination of the blood, that it has lost the mucus which serves to unite its different parts. This privation of mucus, he con-

siders to be the most fatal symptom of the affection. Hence he lays it down as the great desideratum in the cure, to excite real inflammation, or a plethora of this part of the blood. And what he esteems the most effectual means of obtaining this is the use of blisters, which, he maintains, excite an inflammatory disposition, give a general shock to the nervous system, and fix the current of humours and train of irregular oscillations. For the same purpose also he recommends emetics, cordials, sudorifics, Peruvian bark, and volatile spirits, which, he thinks, may be considered as internal blisters.

We are next presented with a long dissertation on the Colica Pictonum, in which we have a full detail of many opinions that have been offered with regard to it, and of the methods of cure which have chiefly been followed in the French hospitals. From what is delivered, our author concludes, that physicians have formed two very different opinions on the subject of this disease. The one set employ strong purgatives, and believe demulcents to be improper. The other set have, on the contrary, recourse to demulcents and oil. Mr Bordeu is of opinion, that this disease, as well as others, has a regular course, and runs through the three stages before pointed out.

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And he thinks, that oil is to be employed in the first, purgatives during the second and third.

We are presented, in the fifteenth chapter, with Mr Bordeu's idea of inflammation. This he supposes to consist in a collection of blood at any part, with an augmentation of the heat and force of action there. This augmentation of action he supposes frequently to proceed from the derangement of cellular matter, producing its effects in the same manner as a needle, or any other foreign stimulus. To this is subjoined a chapter on peripneumony, in which Mr Bordeu chiefly examines what Boerhaave had said of that disease.

Chronic diseases, though slower in their progress than acute, Mr Bordeu considers also as having three periods, viz. those of irritation, maturation, and excretion, or evacuation. But here the two last are wonderfully modified and prolonged, particularly where sensibility has the principal share in the affection. Mr Bordeu distinguishes them into sympathetic and idiopathic. The first which he considers, as almost constantly depending on the stomach, he thinks are often curable, provided they be not inveterate. The other he considers as more obstinate, and fre-

quently incurable. After many other general remarks, particularly on nervous diseases, our author treats professedly of scurvy.

According to Mr Bordeu, those affected with scurvy have their solids singularly irritated, and their fluids considerably altered. This alteration he supposes to consist in the blood being deprived of its albuminous or mucous part, which affords foundation for its being said to be in a dissolved state. In consequence of the privation of this nourishing part of the blood, the body is rendered weak, and the parts lose that force of adhesion which they ought naturally to have. He considers antiscorbutics, particularly certain vegetables abounding with mucus, as producing good effects in scurvy, from furnishing aliment proper in such a condition, and as further containing an alkaline matter fitted for recovering the chylopoetic viscera, and renewing the tone and action of the vascular system.

The subject of the next chapter is the serophula. After having described this affection, he observes, that the inhabitants of cities are less subject to it than those of the country; and, what indeed is very universally admitted, that it is more frequent with infants than with adults. He observes

serves farther, that it chiefly affects those living on the banks of rivers, or who are supported by unwholesome aliment. And he concludes, that those attacked with scrophula have temperaments most similar to those of children. In children, however, as the different organic parts are not completely evolved, he supposes that the fluids cannot be subjected to the necessary preparation; and that, therefore, an acid must be evolved, with which their fluids must always be impregnated, to a greater or less degree; and in this he conceives a scrophulous constitution to consist.

In this disease, Mr Bordeu points out three stages. The first consists in a scrophulous disposition as yet concealed, which is characterized by no evident symptom. In the second stage, some symptoms appear, but of such a nature, that the affection may be considered as doubtful. This he supposes to correspond to what he formerly pointed out, under the name of the Stage of Maturation. Under the third, he comprehends all that period, when the disease is so distinctly characterized that it cannot be mistaken. In the cure of this affection, he chiefly recommends the use of mineral waters; but thinks that

their operation may be assisted by emetics, purgatives, absorbents, and the Peruvian bark.

He observes, that it is essential not to undertake the cure of every case of scrophula at all periods; and particularly, that it is often of consequence to allow the disease to proceed to a certain length in the second period. He dissuades against all attempts to speedy or violent revolution, and against the precipitate use of remedies, which can operate only by exciting a temporary fever or agitation; and that this may operate as a cure, it must be analogous to that fever which nature herself would excite, for producing a salutary crisis. On other occasions, he observes, that the revolutions brought about by the progress of age will often produce a perfect cure, sometimes by evident evacuations, at other times without any obvious discharge.

Besides these affections, Mr Minvielle presents us, in the subsequent part of this work, with Mr Bordeu's sentiments on many other subjects, particularly respecting the crisis of diseases, the prognosis from the pulse, mineral waters, and inoculation. And the work is concluded with some reflections by our author on Mr Bordeu's opinions; from which it appears, that he is not

so implicit an admirer of these doctrines, as to suppose them beyond the reach of all objection. But his chief difficulties arise from the opinions being delivered with too great latitude. While, at the same time, the encomiums he bestows upon them in his preface, and the pains he takes to point out the progress they have made in different parts of Europe, sufficiently evince how sincerely he admires them.

IV.

Premier Mémoire sur le Petrole de Parme. Par M. Fougereux de Bondaroy. Vid. Histoire de l' Académie Royale des Sciences, Année 1770. 4to, Paris.

THough the qualities of petroleum had long ago excited the attention of the chymists, and been illustrated by a variety of experiments, previous to this essay of Mr Fougereux, nothing with regard to its method of collection was generally known, nor any observations made on the soil or species of earth affording it. Mr Fougereux is of opinion, that an exact account of the natural history of the country where this curious production is obtained, must be the first step towards any theory of its formation in the bowels

bowels of the earth. Such a detail the author has been enabled to present the academy, by the assistance of Mr Ferrarini chymist to the Duke of Parma, in whose territories petroleum is collected.

Miano is a small village, not many miles distant from Parma, where this oil is pretty common. Without any certain mark of its presence, the inhabitants sink pits in the earth; but when, at a small distance from its surface, they meet with a greenish clay, known by them under the name of *Terreno Cocco*, they consider it as a favourable omen; and continue their work, allowing the pit to straiten as they descend. When fifty feet deep, they expect to smell the petroleum, which, gradually increasing, becomes at last so intolerable, that the workmen must be changed every quarter of an hour, and are often drawn up without respiration, and to appearance dead. At last, generally 120 feet below the level, the petroleum springs in small jets from the sides of the pit, or is sometimes found collected in some cavity, in great quantities. It is only in summer that these pits furnish the petroleum; in winter, the quantity exuding being too small to defray the expence attending its collection, and of its separation from an earth
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it at first contains, by distilling with water in an alembic.

At Miano, there are now three pits, two of which yield the oil unmixed, except with earth; the third pouring out also a brackish water, on the surface of which a petroleum swims, not inferior to the others when carefully separated. The quantity collected in different pits is very various, from half a pound to four pounds, in 24 hours.

A specimen of the Terreno Cocco was sent by Mr Ferrarini to the Author, who found it by experiment to be an argillaceous earth, exactly corresponding with that left by the oil in distillation. With a few more general observations on the Natural History of the country, Mr Fougereux concludes this Memoir.

V.

Second Memoire, sur le Petrole, et sur des Vapeurs Inflammables communes dans quelques Parties de l' Italie. Par M. Fougereux de Bondaroy. Vid. Histoire de l' Académie Royale des Sciences année M,DCC,LXX. 4to, Paris.

MR FOUGEROUX, in this Memoir, attempts to explain the source of the inflammable vapours, so common in many parts of Italy, particularly

ticularly among the mountains between Bologna and Florence, near Pietra Mala. From the irregular shape of these mountains, the author thinks it beyond doubt, that they have once been volcanos; and, though they have now no open mouth, he has some reason to imagine that they still exist, though at a great distance below the surface of the earth. The author next describes four sources of inflammable vapour on the mountain Canida; three of which always burn; but, as the fourth affords the clearest view of the phaenomena, we shall only offer Mr Fougereux's account of it.

The fire, known by the inhabitants under the name of di Legno, from the similitude of its flame to that of wood, is situated in a valley, on the declivity of the mountain, and is often extinguished by violent winds. It occupies a small depression in the earth, about seven feet diameter, where a vapour arises, only visible, when approached by a flame, when it instantly takes fire, runs along the surface of the depression, and is generally confined to a small part of it at once. This fire is of the most innocent nature, and does not even kindle pieces of paper, tho' it gradually destroys their texture. It is only this vapour that is susceptible of inflammation, the earth from
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whence it arises being cool at a few inches depth, but smelling strongly of petroleum, and somewhat like a scorched coal, or cinders. If a pit be dug near this fire, the petroleum is plainly observed on its sides, the quantity proportioned to the distance from the surface; and a great number of half destroyed vegetables are found in the digging. The author proposes, as a query, Whether the petroleum may be in part a product of these, an oil being extracted from them by boiling, which swims in water? Mr Fougereux is of opinion, that, if we allow the probability of a subterraneous fire still existing, the appearance of the inflammable vapour seems to be a natural consequence of the application of heat to a soil loaded with petroleum, and that in reality these vapours are raised from the petroleum by the action of deep fires. There is no certainty of our having discovered the secret operations of nature, till we are able to imitate their effects. This Mr Fougereux has accomplished. He put into a large earthen pot a quantity of the earth found in the bottom of the pits at Miano, mixed with that left by the petroleum in distillation; and both he covered with several inches of common earth. He then surrounded the pot with burning coals, and, in a short time, a warm vapour arose, taking fire when approached

ed by a candle, and spreading along the surface of the earth, burning with a blue flame, and often shifting its place. Paper, when thrown in, was consumed without flaming; and, in every respect, this fire so exactly resembled those of the mountain Canida, that there seems to be no doubt of their having both arisen from the same cause.

VI.

Premier Memoire sur la Nature de l' Eau, et sur les Experiences par lesquelles on a pretendu prouver la Possibilité de son changement en Terre. Par M. Lavoisier. Vid. Histoire de l' Académie Royale des Sciences, année 1770. 4to, Paris.

MANY eminent philosophers having asserted, that the elementary substances in nature are capable, by various processes, of being converted into each other; and, particularly, that water often changes into earth: The author of this memoir attempted the following candid examination of the opinion; the result of which he here lays before the academy. Without paying much attention to the hypothetical opinions of antiquity, he observes, that the arguments favouring the change of water into earth are chiefly drawn from two sources; 1st, from the growth
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of vegetables in pure water ; and, 2d, from the effect of frequent distillations, and other chymical operations on that body.

Of the first kind, the experiments of Van Helmont were, of all others, made the earliest, and are not the least decisive. He put into a flower-pot 200 pounds of earth, carefully dried, in which he planted a willow of five pounds weight, watering it constantly with rain or distilled water. At the end of five years he cut down the tree, which then weighed 169 pounds 3 ounces, and, drying the earth remaining in the pot, he found it only two ounces diminished. From this he concluded, that he had here obtained 164 pounds 1 ounce of vegetable matter from pure water. The ingenious Mr Boyle made a variety of experiments, much to the same purpose ; and he farther proved, that odorous plants possessed their peculiar smell in as strong a degree, when growing in water alone, as when planted in their natural soil. Passing over a number of experiments by Eller, Bonnet, and Du Hamel, the author allows that, from all of them, we may justly conclude, that a very small quantity of earth passes into the substance of vegetables ; but, to imagine that, by the process of

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vegetation, water is converted into earth, seems to him inconsistent with the idea he entertains of that fluid; and, besides, if we grant this change of water into earth, we cannot deny that it may be converted into oily, resinous, saline, and odorous bodies.

The experiments on this subject, numerous as they are, in general lie open to many objections; and most of them were only made with common water, which often contains calcined earth, and a variety of saline or selenitic compounds. The experiments of Helmont and Eller are the only ones where pure water was employed; but this, if collected from the tops of houses, could not fail to be mixed with a great many foreign substances. And Margraaf has clearly proved, that even the purest rain-water contains a small quantity of sea-salt. There seems indeed to be a great disproportion between the quantity of vegetable matter, and of these substances contained in the water; but, had the wood been chymically analyzed, the real quantity of earth would have been found to be very small. The author, however, foresees that these objections are of no force against the experiments of Eller, which were made with distilled water: But here the result seems to favour his opinion; for, after analyzing the vegetable, the remaining earth amounted

mounted only to a few grains, which might have been afforded even by the pot in which the plant was contained. Independently of all these, the author mentions another source whence vegetables have been shown, by Bonnet, to draw the largest share of nutritive matter, viz. from the surrounding air, by means of their leaves. Of all the fluids in nature, there is perhaps none so complex as the air at the surface of the earth; and it seems far from improbable, that, from it, a quantity of solid matter may be received into vegetables. But, excluding all these extraneous matters, the air itself has been shown by Dr Hales to enter the substance of plants in very considerable quantity. Here, then, the author is of opinion, are two ways in which vegetables may be furnished with the real earth they contain, without having recourse to the change of water, either by substances contained in the water, or floating in the surrounding atmosphere.

The author next proceeds to take notice of the second set of experiments in favour of the conversion of water into earth. Borrichius collected a great quantity of rain and snow-water, which, on evaporation, was found to contain a quantity of an insipid earth; and, after repeated distillations, he found an earth left in the retort.

Nearly at the same time, and without knowing of the experiments of Borrichius, Mr Boyle, from frequent distillations of water, drew a similar conclusion, and even found one ounce to afford six drams of a white insipid earth. Boerhaave, the next author on this subject, attempted a refutation of all these observations, and thinks the quantity of earth found in distillation is so small, that it might easily have been supplied by dust floating in the air. Soon after, Geoffroy repeated the experiment of Boyle by frequently distilling the same water; and, after every distillation, found a considerable quantity of earth. To render the experiment still more decisive, Mr Margraaf performed it in such a manner as to exclude every possibility of dust mixing with the water. Of late, Mr Le Roy has taught us, that all water dissolves a certain quantity of earth, which he imagines has hitherto imposed on philosophers, and given rise to the notion, that water could be changed by distillation into earth; but this opinion Mr Lavoisier considers as liable to many objections. For, was there a quantity of earth dissolved in the water, it would separate in greatest quantity at the first distillation, and diminish every time the operation was repeated. But, with Boyle and Margraaf, the event was differ-

different, the last distillation leaving as much, or more, earth than the first. Mr Lavoisier finishes this memoir with observing, that, from all these experiments, we would still conclude, that, on no other principle, but the conversion of water into earth, have the phaenomena of these chymical processes hitherto been accounted for; and that they are at best much involved in doubts and uncertainty.

VII.

Second Memoire sur la Nature de l' Eau, et sur les Experiences par lesquelles on a pretendu prouver la Possibilité de son changement en Terre. Par M. Lavoisier. Vid. Histoire de l' Académie Royale des Sciences, Année 1770. 4to, Paris.

THE author having shown, in his first essay, that little was to be trusted to the arguments for the conversion of water into earth, drawn from the vegetation of plants, and that the truth of the doctrine seemed only supported by chymical experiment; he now goes on to examine how far these in reality favour that opinion. As a more expeditious way of working than by distillation, Mr Lavoisier resolved to repeat the experiment of Boyle with a pelican, an instrument where the condensed fluid is again returned into the body of the vessel. Having ascertained, with the greatest nicety, the weight of

the pelican, and that of the water when poured in, he accurately shut up the instrument, and applied a heat to it sufficient to excite a gentle ebullition. At the end of 25 days, when almost despairing of the success of his operations, he began to perceive, by means of glasses, whitish flakes of earth swimming in the water, which soon began to settle to the bottom, and, constantly falling through the fluid, rendered it somewhat turbid. After this constant distillation had gone on for 100 days, he removed the vessel and its contents from the fire, and, on weighing them together, with the same exactness as at first, he found they had only lost one fourth of a grain. He then opened the pelican, pouring out the water, with its sediment, he found that the vessel had lost, and the water gained, upwards of 17 grains. This immediately suggested, that the earth he found in the water was in fact nothing but a part of the glass dissolved by the long continued boiling. To fix the truth of this opinion beyond the possibility of a doubt, he weighed the sediment of the water, which he was disappointed to find fell far short of the quantity lost by the pelican; but, imagining a quantity of the dissolved glass to be still suspended by the water, he poured it into a clean retort, and, distilling it off with

a gentle heat, found a quantity of an earthy matter, which, joined to the sediment formerly collected, exceeded by three grains the weight lost by the pelican. This difference, however, the author considers as immaterial, since, in the effusion of the water out of the instrument, and during a short time it was exposed in the open air, some grains of dust might easily have got into it. From all these, Mr Lavoisier finishes his paper with the important conclusion, that water has some power of dissolving glass, and that it was this alone which misled Boyle, Margraaf, &c. and gave rise to the idea that water, by distillation, was capable of being converted into earth.

VIII.

Recherches sur quelques Conformations Monstreuses de doigts dans L'Homme. Par Mr Morand. Vid. Histoire de l' Académie Royale des Sciences, Année 1770. 4to, Paris.

A MONG all the wanderings of nature in the formation of the human species, there is none, at first sight, less striking than a supernumerary finger or toe ; but, to the inge-

nious author of this memoir, the existence of such slight deviations from the common structure of the body, has opened a field of curious and interesting inquiry. After presenting the academy with a full narrative of the best authenticated instances of such monstrous productions, and which does not admit of any abridgement, Mr Morand goes on to distinguish these *lusus naturae* into two classes; the one, where the additional toe or finger was formed symmetrically with the rest, both in appearance and intimate structure; and the other, where an irregular excrescence only adhered to some part of the natural ones.

It is chiefly from the appearance of the first class that the author draws those judicious conclusions which compose the sequel of the paper; and, fortunately for him, he had the opportunity of dissecting a young man who had six regular fingers on each hand, and an equal number of toes to every foot. These additional members he found composed of bones, tendons, and muscles, in such a manner, that their strength must have been considerable, and their motions very compleat; nor were they in any way different from the natural toes and fingers. From an attention to these circumstances, an answer
natu-

naturally arose to a philosophical question, warmly supported on either side, by authors of learning and genius.

We have only two ways of accounting for the monstrous productions of nature in the formation of the foetus ; either that they originally exist, or that two or more foetus are some how confounded or united in the womb of the mother. The first considers monsters as created by the Author of nature ; the last looks on them as produced by accidental and mechanical causes. It is impossible for Mr Morand to conceive how these organs should be separated from one foetus, the rest of which is destroyed, and so artfully joined to the corresponding parts of the other ; and from the consideration of these complete fingers alone, he forms the rational conclusion, that these species of monsters must have been originally such ; and, on the other hand, where irregular masses are joined, or the parts of two foetus's united to each other, he has no doubt that this configuration can be produced by mechanical causes in the uterus. Thus does he ingeniously endeavour to reconcile the opinions of Lemery and Winslow, by showing that they are both in the right, but that each has applied his own idea without the necessary limitations.

The author concludes his essay with observing, that fingers of the first kind must be a valuable acquisition; but that the irregular excrescences, which he has referred to the second class, are fit objects of surgical practice.

IX.

Experiments and Observations on different kinds of Air. By Joseph Priestley, L. L. D. F. R. S. 8vo, London.

IN the introduction to this work, we are presented with a general account of the properties of the different kinds of air already known, and with a description of the apparatus employed in performing the experiments; both of which are in some measure necessary for understanding the observations afterwards delivered.

The work itself consists of two parts. The first contains the observations which were published in the Philosophical transactions for the year 1772, and of which we have given an account in a former number of these Commentaries. We now propose, therefore, to present our readers with a view only of what our author has
since

since done on this subject. And of these observations an account is contained in the second part of the present volume, and in the appendix.

The author begins this part with his remarks on alkaline air. This air he obtained from the volatile spirit of sal ammoniac, which is procured by distillation with slacked lime. This spirit contains about as much alkaline air as an equal quantity of spirit of salt contains of acid air. Alkaline air readily unites with water, and may be made to form with it a much stronger spirit of sal ammoniac than can be obtained in any other way. Upon the mixture of acid air with alkaline air, a beautiful white cloud was formed, which presently filled the whole vessel in which they were contained. When this cloud subsided, a white salt appeared, which was found to be common sal. ammoniac.

The author next relates the phaenomena which appeared on the mixture of alkaline air with nitrous, fixed, inflammable, and common air, with spirit of wine, oil, and aether.

He found that sulphur, nitre, common salt, and flints, did not imbibe any part of it; but that charcoal, sponge, and bits of linen-cloth, condensed it upon their surfaces; and, particularly, that a bit of sponge, about the size of a
hazel-

hazel-nut, presently imbibed about an ounce measure of it. This sponge, he imagines, from the smell which it thus acquires, might perhaps be of use to recover people from swooning. He did not find that the inspissated juice of turnsole had its colour changed by it. The effects of alum were very curious. The shape and size of the alum were not in the least altered, but its internal structure was totally changed. This appeared from its becoming opaque, and beautifully white, to all appearance like roasted alum. This our author imagines proceeds from the alkaline vapour seizing upon the water which enters the constitution of the crude alum. He found alkaline air to be inflammable, but heavier than common inflammable air. And, lastly, he observed, that, as well as acid air, it dissolved ice as fast as hot fire could do it.

In the second section, we are presented with observations on common air, diminished and made noxious by various processes. Besides the methods formerly mentioned, by which common air may be rendered noxious, our author has now found, that it may also be diminished by liver of sulphur, by Homberg's pyrophorus, by the firing of gun-powder, by a cement made with one half of common coarse turpentine, and the other of bees-wax, and by the electric spark. All these cases, our author supposes to agree in
one

one circumstance ; that is, that the diminution arises from the air becoming overcharged with phlogiston, which having a nearer affinity with some of the constituent parts of air, than the fixed air which enters the composition of it, this last is precipitated.

Dr Priestley observes, that the calces of metals contain air of some kind or other, which contributes to their additional weight above that of the metal from which they are formed. In attempting to revivify lead by the electric spark, fixed air was expelled, and, along with it, a quantity of water. These two our author considers as the occasion of the increase of weight in that calx. And this revivification, he observes, compleats the proof, that electric matter either is phlogiston, or contains a large proportion of it.

If it be admitted, that common air, in all the cases of diminution which have been mentioned, is made to deposite the fixed air, which enters its composition by means of phlogiston, our author thinks that the precipitation of lime, from breathing into lime-water, is to be accounted for in a different manner from what has commonly been done. He concludes, that the fixed air which incorporates with the lime comes not from the lungs, but from the common air, which is decomposed by the phlogiston expelled from
them.

them. For the phlogiston which is taken in by the aliment, after having performed its functions in the animal system, is discharged by this outlet. He farther concludes, that animals die when confined to a small portion of air, in consequence of the phlogistic matter discharged from their lungs soon saturating the common air, and from the want of a menstruum by which it may be taken up. To this section on air diminished and rendered noxious by different processes, or, as it might have properly been called, phlogisticated air, our author has subjoined a letter, addressed to Sir John Pringle, which appeared in a late volume of the Philosophical Transactions. In this letter, he attempts to overturn the opinion of Dr Alexander, lately physician in Edinburgh, who maintains, that no danger is to be apprehended from the neighbourhood of putrid marshes. Although he expresses great satisfaction with the spirit of philosophical inquiry, which Dr Alexander's publications discover; yet he is fully satisfied that this opinion is not only ill founded, but must be dangerous.

In the third section, Dr Priestley treats of nitrous air. Upon the mixture of a combination of inflammable and nitrous air with common air in a trough of water, which had been putrid, a
phae-

phaenomenon sometimes occurred, which, our author observes, both puzzled and delighted him for a long time. But it was afterwards the means of giving him a farther view of the constitution of nitrous air. When the diminution of air was nearly compleated, the vessel in which the mixture was made began to be filled with the most beautiful white fumes, exactly resembling the precipitation of some white substance in a transparent menstruum, or the falling of very fine white snow, except that it was much thicker below than above. The same process, however, did not always produce this appearance. From considering this experiment, our author at length perceived, that it must have been occasioned by the mixture of the nitrous and common air, and that the white clouds must be nitrous ammoniac, formed by the union of volatile alkali, and the nitrous acid separated from the common air and phlogiston with which it was combined.

Dr Priestley now finds, that it is not peculiar to nitrous air to be a test of the purity of air for respiration, as any air made noxious answers the same purpose. He supposes, therefore, that phlogiston is the test; for, if the air be so loaded with this principle, that it can take no more of it,

it, noxious qualities are instantly perceived from it. He concludes, therefore, that air must be wholesome in proportion to the quantity of phlogiston which it is able to contain.

A mixture of fixable air and water has been found capable of dissolving iron ; but it does not appear that this effect can be produced by fixable air alone. For our author finds that neither iron nor fixed air are altered on their being exposed together. But a most remarkable change was induced, on iron's being exposed to nitrous air. The nitrous air was, by this means, transformed into an air, in which a candle naturally and freely burns, while, at the same time, it was in the highest degree noxious to animals. Whereas, in general, animals live with little sensible inconvenience in air, in which a candle is burnt out. By this exposure, it seems even to acquire a peculiar kind of inflammability ; for long candles burn with an enlarged flame, but without any thing like explosion. This peculiar inflammability is soon taken off by agitation ; so that it extinguishes a candle, retaining its noxious qualities, and diminishing common air. But it is again rendered fit for animal life and flame, by further agitation with water. From many experiments, our author infers, that
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all the difference in nitrous air, whether in its fresh state, in that in which it is partially inflammable, or wholly so, in that in which it extinguishes candles, and, finally, in that in which it becomes fit for respiration, depend upon some difference in the mode of combination of its acid with phlogiston, or on the proportion between the two ingredients in its composition. On this subject, it further deserves to be remarked, that nitrous air, rarified in an air-pump, was found to dissolve iron, and to be diminished by it as much as when in its native state of condensation.

This section on nitrous air is concluded with a few observations of a miscellaneous nature. The chief of these are, that nitrous air is as much diminished, both by iron-filings, and also, by liver of sulphur, when confined in mercury, as when it is exposed to water; and that frogs, snails, and probably other animals, whose respiration is not frequent, will bear being exposed to nitrous air for a considerable time; but that other animals die very soon in it. From considering this fatal tendency of nitrous air to animal life, and its great antiseptic power, it occurred to the author, that it might be of considerable use in medicine, especially in the form of clysters, in the
same

same manner, as fixed air had been exhibited with success. To ascertain its effects, a quantity of it was injected by the anus into the intestines of a dog. While he retained it, he gave manifest signs of uneasiness ; but, in a few hours, he was as lively as ever, and seemed to have suffered nothing from the operation. The author, therefore, proposes, that nitrous air should be used in injections, when diluted, either with common air or fixable air. In this state, the bowels would be better able to bear it, while, at the same time, it would continue noxious to animals. And he thinks, that it might thus be used against worms, or for checking putrefaction in the intestinal canal, or other parts of the system.

The subject of the fourth section is acid air. This species of air Dr Priestley had formerly procured from spirit of salt ; but he afterwards found, that it might be obtained at much less expence, by having recourse to the process by which spirit of salt is itself originally made. Besides the properties before described, the author now found, that this air will extract phlogiston from substances, from which at first he concluded he was unable to obtain it, as from dry wood, crusts of bread not burnt, dry flesh, flints, pit-coal uncharred, spirit of wine, and various
oily

oily substances. From its strong affinity with phlogiston, our author expected that the fumes of liver of sulphur would have united with it so as to form inflammable air. But, in this expectation, he was disappointed. Dr Priestley next relates the effects of this substance upon concentrated acid of nitre, vitriolic acid, metallic salts, neutral salts, sugar, ice, &c. This air is also noxious to animals. Flies and spiders die in it, but not so quickly as in nitrous air. And he concludes, from an experiment, although we apprehend by no means an accurate one, that it is heavier than common air.

In the fifth section, to the experiments formerly made on inflammable air, our author now adds, that it may be produced by the electric spark with any kind of oil. Common air, increased by aether, was increased still more by the electric spark, and was not imbibed by water, or much diminished by a mixture of nitrous air. When the electric spark was taken from aether alone, without access of any other air, our author found that it was strongly inflammable; and he has no doubt of its being genuine inflammable air, like that which is produced from metals by acids, or by any other chemical process. Air possessing

similar qualities was obtained from essential oils, spirit of wine, and even from volatile spirit of sal ammoniac. When our author endeavoured to procure air, by the electric spark, from a caustic alkaline liquor, and from spirit of salt, he found that it could not be made visible in either. From this, he concludes, that they are much more perfect conductors of electricity than water or other fluids.

The additions which Dr Priestley has made on the subject of fixed air, of which he treats in his sixth section, are, he observes, neither numerous nor considerable. The most important fact seems to be a confirmation of his opinion, that fixed air is capable of uniting with phlogiston, and thereby forming a kind of air, which is not miscible with water.

In the two subsequent sections, we are presented with miscellaneous experiments, queries, hints, and speculations; which, according to our author's own account, contain many random thoughts. But a view of these we cannot at present propose to exhibit.

This treatise is concluded with an appendix, containing communications from other gentlemen; particularly, experiments from Mr Hey, proving,

proving, that there is no oil of vitriol in water, impregnated with fixed air; observations by Dr Percival on the medical uses of fixed air; and a letter from Dr Franklin, on the raising of a flame on the surface of some waters in America.

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S E C T.

S E C T. II.

Medical Observations.

The Case of an Angina Pectoris, which terminated fatally with the Dissection ; by Thomas Percival, M. D. F. R. S. and S. A.

IN November 1773, I was desired to visit a gentleman near Knutsford in Cheshire, aged upwards of fifty, who had been, for several years, subject to frequent attacks of a most alarming and oppressive sensation in his breast, which he knew not how to describe. This symptom was attended with a pain about the middle of the *sternum*, inclining to the left side ; and he was generally affected, at the same time, with a pain in his left arm where the deltoid muscle is inserted.

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As I visited the patient only once, and took no notes of his case, I cannot give a minute detail of it, and must content myself with saying, that I apprehended his disorder to be what Dr Heberden hath so accurately described under the name of *Angina Pectoris*. Various anodyne and antispasmodic remedies were prescribed; but these produced only a temporary alleviation of his complaints. And it was observed, that nothing afforded such instantaneous ease, during the paroxysms of his disorder, as venesection or vomiting. In July 1774, he died; and his body was examined by Mr Allen, an ingenious surgeon in Knutsford, who has favoured me with the following account of the dissection,

The left lobe of the liver was considerably enlarged, and full of indurated, white, tumors; and nearly one half of the right lobe was beginning to be affected in a similar manner. The gall-bladder was distended with bile; the stomach was hard and schirrous, as far as it was in contact with the liver; the lungs were pale and livid; and the blood-vessels as distinct as if they had been injected with Prussian blue. The heart and aorta descendens were in a sound state; very little water was found in the pericardium, or

mediastinum ; and there was nothing preternatural in the appearance of the diaphragm.

This gentleman had lived freely, but was not subject to the gout.

Dr Heberden has favoured me with the following remarks upon this case. "The dissection of this sufferer by the angina pectoris, as well as that of a few others, which I have heard of, teaches us, that the disease is neither owing to inflammation, nor to any mal-conformation of the parts. We must not therefore seek for the cure amongst the means which lower the *vis vitae* ; and we need not despair of finding it elsewhere. But we should not expect to find it very soon, when we consider how little success has attended all our searches after a remedy for the gout, and for some other distempers, with whose natures we have had, for some thousand years, such a abundant means of being acquainted."

II.

Observations on the Use of Cold Bathing in the Cure of Tetanus, communicated in a Letter from Mr Thomas Cochran Surgeon at Nevis, to Mr John Balfour Surgeon in Edinburgh.

AN East Indian, a boy about twelve years of age, landed on this Island in February 1774, and, in March, was unfortunately gored by a cow on a pasture, where he lay for some hours exposed to rain and dampness of the air. Next morning, on visiting him, he complained of stiffness in his neck, pain in his throat and stomach, difficulty of swallowing, and a contraction of the whole muscles of his shoulders, with all the symptoms of a locked jaw. On examining his body carefully, nothing was found but a swelling of his shoulders, and a few slight excoriations amongst their surface. As he was costive, and complained much of gripes, a dose of castor oil was given him, which procured several stools. Dr Nisbet, in the evening, bled him, and ordered sixty drops of laudanum to be given him every three hours. On the second day, after this treatment, finding that the symptoms rather in-

creased than abated, we determined to try the effects of the cold bath, rather than persevere in a course which has so often proved unsuccessful. It was indeed a hazardous experiment, and might have been attended with fatal effects; but, as it was almost a certainty that the patient would have died, it was worth while to determine the effects of cold, instead of warm, applications. I accordingly saw the boy stripped, and put into a large tub, and a pail of water dashed upon him. The shock was very severe, and, as might be expected, rather contracted the muscles of the throat more than before; however, I was pleased to find that it produced no worse effects. As soon as he came out of the bath, he was strongly rubbed with a dry coarse cloth, and his throat and shoulders anointed with oil of Turpentine, afterwards wrapping him in warm cloaths, a hundred drops of laudanum were given. This was at mid-day; and the same dose was ordered to be repeated in the evening. Upon visiting him next day, we were happy to find his symptoms were not increased; and, tho' his jaw still continued stiff, yet he could open it sufficiently to receive nourishment. He was again put into the bath, which he bore very well, though he had a great dread of it, more perhaps for the coldness

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of the water, than fear of the symptoms being exasperated. And immediately afterwards he was put on horseback before a negroe, desiring him to trot briskly for a quarter of an hour.

The boy returned in a profuse sweat, and another hundred drops of laudanum were given him. The same was repeated in the afternoon and evening. On visiting him the next day, the symptoms were still much the same ; and we had almost resolved to give over this method, thinking, if the experiment failed, the patient would even lose the chance he might have had of trying the effects of mercury, which we are told has sometimes succeeded ; however, curiosity, with the consent of the master, inclined the Doctor and myself to push the experiment further ; and accordingly the same method was followed for five days longer, bathing him oftener, and giving the laudanum in larger quantities than before ; and we had the pleasure to see our patient open his jaws pretty freely, and walk tolerably upright, in a few days after.

I forgot to mention, that glysters and gentle laxatives were given frequently, and that his diet was as light as possible.

I have heard that, at St Eustatia, and St Kitts, some cases have been treated successfully by cold
water.

water, with the bark ; and, since that, by a gentleman of the profession here, that he was told of a Dutch practitioner in this island, about fifty years ago, having carried it so far as to lay the patient in wet sheets, by which means he cured one patient ; but, as the practice was new, and not having the consent of the proprietors, he could not take upon him to try this method, however desirous he might be, well knowing the risk a man runs in going out of the old beaten track, however unsuccessful.

But, from the good effects observed in this case, during the use of cold water, we are determined to repeat the same in the first that occurs ; and a few more, perhaps, may be sufficient to determine us in this practice. At any rate, the cause of the patient's death can never be imputed to cold applications.

Dr Lind, I see, proposes the experiment ; but, for ought I know, there are no histories of its being tried. Sauvages, I find, mentions one of a patient's being cured of the tetanus by being let down into a well, where he continued some time over the cold moist air of the water, and was cured in seven days. This seems a strange practice, and perhaps, in theory, may not be accounted for satisfactorily. But, I should
imagine,

imagine, that the effects this remedy produces are merely from the general shock given to the system, by which the particular spasm may be taken off. However, these are only conjectures, which I must leave to abler heads to determine.

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Since the above communication, Mr Balfour has received another letter from Mr Cochrane, in which he mentions his having of late employed cold bathing in several other cases of Tetanus, with great success.

III.

The History of an excessive discharge of Water from the Uterus during Pregnancy; by Dr John Alexander Physician in Halifax, Yorksbire.

A Gentlewoman of the age of 30, on Tuesday April 22. 1770, in the latter end of the sixth month of her fifth pregnancy, was suddenly seized with a great weight and oppression in the bottom of the abdomen, so that she was not able to walk up stairs, but was under the necessity of being carried. The morning after this happened, I accidentally called upon her, and found the abdomen considerably larger than it ought to have been for the time. She was scarce able to walk a-cross the room. In the afternoon, she had some labour-pains, and parted with
near

near a quart of water, which came from her all at once, and continued running from her for seven days successively, from the time of her rising in the morning, till the time of her going to bed at night, so as to wet sixteen or seventeen double cloths every day ; but it always ceased when she lay down, either night or day.

On Monday April 29. the running of the water ceased ; but her inability to walk still continued. Tuesday May 7. she had a relapse of her disorder ; the circumstances of which were in every respect the same as above. May 9. she was able to walk a little by the help of a person to lean upon. In this state she continued parting with water in the manner above related, at intervals of three or four days, when it generally run from her for the space of one day, excepting that part of it when she lay down upon the bed, till the 30th of June. After this time, the water began to run from her every morning, as soon as she got out of bed, and continued all the day, excepting the time she lay down, as before, till within five days of her delivery, which happened on the 15th July. In the evening of July 4. I was sent for again, she appearing to the persons who attended her to be in strong labour. I found her seemingly in extreme pain ; the os uteri was
open

open the size of a shilling or more, and the edges of it were very soft and thin. Her pain pressed down the child against my fingers; the membranes were plainly to be felt before the child's head; but I could not perceive they were in the least protruded. In about two hours, the pain entirely left her, and she was as well as usual. I was sent for again the following evening, and found her exactly in the same situation, excepting that her pains were something stronger. She was seized both nights at the same time, and continued in pain about two hours. After this, I was desired to lie every night at her house, which was at the distance of six miles from me; she kept continually parting with water, as usual, every day, during the time she was out of bed, till July 9. when it stopped again, and ceased for the space of five days, in which time her belly swelled to as large a size as I ever remembered to have seen one in an *ascites*. In the morning of July 14. she was taken ill again, and parted with a greater quantity of water that day than she had ever done before. She began to have slow lingering labour-pains, about ten o'clock that night, which gradually increased till about three in the morning, when I was called up. I found the os uteri much dilated, the waters collecting, and the membranes pushing strongly down; her
pains

pains were very regular and strong ; the membranes came to the os externum before they broke ; and, after two more pains, she was delivered of a large healthy child about five o'clock in the morning. The lady recovered extremely well. Since the above, the same lady has had three children. The circumstances of her pregnancy in each were exactly similar with the above case, except in the following particulars. In the second, the water began to come from her three weeks sooner than in the first ; and her inability to walk was full as bad. In the third, the water began eight weeks sooner than in the first, i. e. in the 4th month of her pregnancy ; but she had longer intermissions, it seldom coming oftener than once in a fortnight, and continuing but one day. In the interval, also, she was as capable of walking or riding as any person in her condition usually is. In the last, the circumstances were exactly similar to the second. The children she had all the times were large and healthy ; she always recovered well.

I boiled some of the water every time, to try if it would coagulate ; but it always evaporated to dryness.

IV.

Observations on the Flowers of Zinc, and Cuprum Ammoniacale, and on two Affections of the Throat, communicated in a Letter from Dr Louis Odier, Physician at Geneva, to Dr Andrew Duncan Physician in Edinburgh.

THE flowers of zinc are a pretty good antispasmodic remedy, though not equal, by any means, to the praises Dr Gaubius bestows upon them. I have often employed them with success, but much oftener in vain. In general, however, they give relief from the very first dose; but then it often ceases. As I thought it pretty similar in virtue to the cuprum ammoniacale, I wanted to try what a combination of these two remedies would do, and, though the success did not answer in that case as I wished it, yet I discovered something that may be useful; and it is, that one may bear the same doze of each of the two remedies combined, as if they were separate. For, having given flowers of zinc to a lady till I found she could not bear more than two grains and a half of them for a doze, without nausea, I then gave her cuprum ammoniacum, increasing the
dose

dose to two grains, which was the utmost she could bear ; but, by combining the two remedies together, I found she could bear a dose of four grains and a half ; two of which were of the *cuprum ammoniacum*, and two and one-half of zinc. I apprehend this may be of use for increasing the strength of the remedy, in cases of a spasmodic nature.

I have had one case here, which I do not remember to have seen described any where ; it is a *Cynanche Oesophagea*. I was called to a girl of 22 years old, who complained of a pain between the sternum and the fifth vertebra of the back, but rather more towards the back. That pain was not increased by drawing in her breath ; but it was exceedingly violent whenever she attempted to swallow any thing, and then she referred it still to the same place. She had no cough, nor any dyspnoea ; but her pulse was hard, full, and frequent ; she had not the least redness nor swelling in the tonsils. She was cured by bleeding, and the antiphlogistic regimen. Nothing can be clearer than this case, I think ; and yet I do not remember to have seen it described any where. It resembles very much, indeed, the *Cynanche Pharyngea* ; but yet it differs from it in its seat.

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We have had here a young nobleman, affected with a very singular disease, which, after many fruitless attempts, was cured by a very simple method. His oesophagus was constricted in such a way as not to let down any aliment, not even of the liquid kind, except as a filter would do. What he took for his nourishment remained for one hour or two in the upper part of the oesophagus, which had gradually dilated itself above the constriction, into two large bags, which appeared exceedingly big on each side of the neck, and then was thrown up; how far digested, I have not been able to learn. He was for a long time in Dr Haller's hands, who rather increased than relieved his disease. All the physicians and surgeons he consulted failed likewise in the attempt; and he was already despairing of a cure, and in a most pitiful state of emaciation and discouragement, as you may suppose, after a year or more of such a disease; when, at last, he met with a very skilful and eminent surgeon we have here, Mr Cobanish, who advised him constantly to wear on the neck a bandage particularly contrived for that purpose, to compress the large bag formed by the oesophagus on each side; and, at the same time, to swallow hemlock pills. These remained in the bags, or at the constricted

place, one or two hours, and then were thrown up like the rest of his aliment ; when he took some more, so as to have them always applied to the seat of the disease. He soon felt the relief of this advice, and was gradually cured, the bags disappearing, the aliments getting down into the stomach, and the oesophagus resuming its former caliber. He is now perfectly well, and has been so for a year or two. I forgot to tell you, that he was founded, and the oesophagus found schirrous at the place of constriction.

V.

*The History of a Case of Imperforate Hymen ; by
Mr Fielding Best Fynney, Surgeon at Leek in
Staffordshire.*

SARAH WORDLE, in her eighteenth year, of a plethoric habit of body, servant at a public-house in this town, came to me, on the 24th of January 1772, for relief for a bearing down at the vagina, which she had been troubled with about 18 weeks ; and a violent cough which she had since contracted, and which had
great-

greatly increased her former complaint, especially at the time of coughing.

As I was then very busy, I only took some blood from her arm ; but ordered her to come again, if she did not get better, in a few days. However, I heard nothing about her until Saturday the 22d of February, when I was called to her, and I found her much convulsed ; but, as I was not permitted to examine the part affected, I only ordered her an anodyne, to appease the irritation of the nervous system.

The day following, I was sent for ; but, being out upon business, another surgeon was called in, as she seemed likelier to die than to live ; and he gave it as his opinion, that she was irrecoverable, and left her without using any methods for relieving her. As soon as I returned home, I visited her, and found her whole frame strangely distorted, but that sort of convulsion called Opisthotonos was most predominant ; her bearing-down pain was constant, and frequently as violent, as though she had actually been in labour, and at the point of delivery. I gave her some foetid drops ; which having no good effect, I was sent for again, when I was determined to examine what sort of bearing-down this was, which she so much complained of, as I then looked upon it

to be the primary cause of her present indisposition; and I found the vagina quite closed by the hymen, which was greatly upon the stretch, by an accumulation of the menses. I gave her an anodyne that night, which procured her a good deal of refreshing sleep; and, as I was not allowed to perform any operation upon her until she had seen her parents, a messenger was immediately dispatched for them; they came on the following morning, when I described her complaint, with the method of cure, to her mother, and advised her to take her home to a village called Basford, about three miles from this town; which was complied with. She could not sit; therefore was obliged to walk, which fatigue caused her fits to return with such violence, that her father came for me immediately after she was got home. I made all the haste I could to her, and, after getting proper women-assistants, and placing her in the same position as when I cut for the stone, I stood by her left side, and cautiously divided the hymen, which was at least an inch thick, beginning at the perinaeum, (that the discharge might not incommode me during the operation,) and continuing the incision quite up to the urethra; I let out three pints and one half of blood; at first, it came away thin and
florid,

florid, but, towards the last, exceeding tough, and of a darker colour, but without the least offensive smell. After I had got away as much as possible, by pressing upon the abdomen, and all other methods which I could make use of, I introduced a large tent made of rolled linen, first smeared over with an emollient ointment, and secured it with the T bandage; all which I ordered to be removed, whenever the foecal or urinal discharges demanded, and to be carefully replaced again. I ordered her an anodyne; and, after giving very particular directions about her diet, I left her greatly relieved indeed.

On the 25th and 26th, the same treatment was observed, and I found her, both days, as well as I could expect. On the morning of the 27th all dressings were removed for that day; and, as she was rather costive, she took a dose of purging salts, which operated well; and she had likewise a great discharge of blood from the uterus, which, towards night, became more watery. Her cough was very troublesome; therefore I gave her some paregoric elixir, acidulated with oil of sulphur, which greatly relieved her.

The next day, she was very faintish; and, as the linen-tents gave her pain, I changed them for sponge-tents.

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On

On the 29th, she was not quite so dispirited, and she continued getting better until the evening of March the 3d; when, being unfortunately alarmed by some children, who were in danger of falling into a well, it brought on her fits in a violent manner. I was sent for immediately; but, before I arrived, she was much better; however, I removed the tent, as I imagined it might keep up an irritation of the part; and, as it was late, I ordered her nothing that night except a small quantity of rum and water, as her spirits were much depressed, and she complained of being cold.

I sent her some foetid pills the next day, and she was much altered for the better. On the 6th, I applied the sponge-tent again, and ordered one to be made use of every day, until the 11th, on which day I introduced a leaden canula. Its shape was a flattened cone, with a groove or depression all the length of that edge which was next the ossa pubis, as an easy bed for the urethra; this was tied to a piece of folded linen, to prevent its slipping in too far, and secured with the T bandage. She wore it until the 18th of March, on which day she returned to her place perfectly recovered, and has been in a good
state

state of health from that day, for these several years past.

VI.

Extract of a Letter from Dr Percival to Dr Duncan, on the EXTERNAL Use of Preparations of LEAD.

THOUGH I entertain a very high opinion of the usefulness of Saturnine preparations, externally applied, and frequently prescribe them; yet I am fully convinced that they *sometimes* produce the specific effects of lead upon the body. And I could wish that more attention were paid to the operation of such topical remedies, especially when applied to constitutions to which we are strangers. There are indeed some habits which appear very little exposed to be affected by this mineral poison, of which I have given several examples in my *Observations and Experiments on Lead*, and can now add two others. The first was communicated to me by Mr Barker, surgeon in Bakewell; the second, by the late Dr Small, an excellent philosopher, and a physician of great eminence at Birmingham.

Two smelters, who have worked *nineteen years* at the smelting mills, have constantly, during that time, toasted the cheese, and broiled the bacon, and other provisions which they used, on the hot pigs of lead, without the least apparent inconvenience. They are stout, healthy men, and have never experienced any pains in their bowels. And, as this method of dressing meat renders it remarkably sweet and palatable, Mr Barker could not prevail upon them to discontinue it.

A gentleman, who had been long troubled with the heart-burn, discovered, from repeated trials, that his malady was relieved by swallowing a large quantity of saliva. To increase this secretion, he chewed, many hours every day, a piece of lead, which being neither hard, friable, nor offensive to the palate, suited his purpose better than any other substance. This practice he continued many years, with great advantage, and without injury, in any respect, to his health.

But the same learned physician informed me, that he had seen three instances of the fatal effects of Goulard's Extract of Lead externally applied. Two of the cases were incipient white swellings; the third was a tumour of a less uncommon kind. Each of the patients became paralytic, and two of them were convulsed several days

days before death. I lament that Dr Small did not favour me, in his letter, with a more circumstantial relation of these cases; but his judgement and accuracy may be relied upon with confidence.

From the present universal use of the Saturnine Water of Goulard, it may be thought surprising that such melancholy examples as these do not more frequently occur. But this preparation happily contains so small a portion of lead, that it is capable, in the most irritable habits only, of producing its peculiar effects. An ounce phial, filled to the brim with the *Extractum Saturni*, weighed sixty-five grains and a half heavier than the same quantity of the vinegar with which it was prepared. A hundred drops of this Extract, the quantity usually mixed with a quart of rain-water, are about the fifth part of an ounce, and may be supposed to suspend thirteen grains of lead, if no change be produced, by combination, in the specific gravity of the compound. Each ounce, therefore, of the vegeto-mineral water contains only four tenths of a grain of this metal.

The *Aqua Saturnina*, employed in the following case, was strongly impregnated with lead,
having

having an ounce of the Extract in every quart of water. On Thursday February 16. 1775, Mr P——, a young man of a delicate habit of body, had a tea-kettle full of boiling water thrown upon his leg, by which the cuticle was separated from the knee to the toes. Oily applications were immediately used; but the pain and inflammation were so great the following day, as to require the assistance of the ingenious surgeon to whom I am indebted for this account. A gentle laxative was directed; the patient's leg and foot were well washed every three hours with Goulard's Saturnine Water, and afterwards covered with linen soaked in the same lotion, and wetted with it from time to time. The relief obtained by these means encouraged the young man's friends to use the lotion in an immoderate quantity; for, in six days, no less than 7 quarts of water were consumed. On Wednesday night, the sixth from the first application of this remedy, the surgeon was called to his patient, and found him violently afflicted with the colic, trembling of his limbs, continual nausea, and frequent vomitings. He had been costive three days, and had neglected to take a purgative medicine prescribed for him. It may be proper to point out the progress of these symptoms, as they
seem

seem to mark the gradual operation of the lead. On Monday the constipation commenced, and a slight tremor was perceived in the scalded limb: The tremor continued on Tuesday: On Wednesday the colic supervened, which grew extremely severe and alarming in the evening, and was aggravated by the sickness and reachings which accompanied it. Directions were given to discontinue the lotion; the *Ceratum Sambucinum*, spread upon linen, was applied to the parts affected, and the following draught was administered every four hours.

℞. Ol. Ricini V. O. Subact. ʒss.

Aq. Menth. Pip. Simp. ʒ i.

Tinct. Thebaicae gutt. vii.

Syr. e Meconio ʒ i. M. F. haustus.

Several motions were procured by the repetition of this draught; the complaints of the patient became more moderate; and the colic entirely ceased before the next evening. But a forenefs of the *abdomen* remained, and the body was left in a very irritable state. The scalded leg and foot, in eight days, were more healed, than is usual after such accidents, in three weeks, when unctuous remedies are employed.

I have

I have seen and examined the patient, whose case is here related, and can attest the faithfulness and accuracy of this account.

The facts which I have now laid before you, in conjunction with those contained in my treatise on the poison of lead, afford a strong presumption, that Saturnine preparations, externally applied, are not so perfectly innocent as they are too generally asserted and believed to be. One positive proof, well authenticated, outweighs a thousand negative ones; especially when such positive evidence is acknowledged but rarely to occur. And I shall be happy in the idea of having done some service to the community, if I can excite more attention to the operation, and more caution in the use of these topical remedies, which are deservedly esteemed, and universally employed. My design is not to disparage them, but only to recommend a just discrimination of their effects. Whenever tremors of the limbs, paralytic affections, costiveness, yellowness of the countenance, or pains in the bowels, succeed the application of any Saturnine composition, the use of it should be for a while suspended, or entirely discontinued; and the proper antidotes to the poison of lead should be sedulously administered.

nistred. Thus will the danger be obviated on its first approach ; and we shall not be reduced to the sorrow and disgrace of having cured an ulcer, a burn, or a contusion, by inflicting the most excruciating tortures, or perhaps at the expence of life.

S E C T.

S E C T. III.

Medical News.

AN extract from the journals of the Board of Police for Scotland, concerning the recovery of persons drowned, and seemingly dead, has been lately printed at Edinburgh, by order of the board. From this extract it appears, that Lord Cathcart, the preses, had presented to the board a paper, relative to persons drowned and recoverable, though seemingly dead ; together with a letter from Dr Cullen, his Majesty's first physician for Scotland, who had been consulted on the same subject ; both which are subjoined. The paper presented by Lord Cathcart, after pointing out the singular success which has attended institutions, in other countries, for the recovery of persons drowned, strangled, frozen, or suffocated by noxious vapours, proposes, that a general establishment

ment for the same purpose should be set on foot in this country. And that, with this view, the board should compose a proper advertisement, containing the necessary advice to the public in such cases, and informing them of a reward being offered, by way of encouragement, to those who shall follow it. That this advertisement, together with the resolution of the board, should be transmitted to the sheriffs of counties, magistrates of royal boroughs, and moderators of presbyteries, all over Scotland. That each district should make proper provision to supply the expence of procuring instruments, and of issuing rewards, in case a life be saved, or attempted to be saved. And an advertisement suited to this purpose is here subjoined, in which we are presented with the following directions.

“ 1st, In removing the body to a convenient place, great care must be taken that it be not bruised, nor shaken violently, nor roughly handled, nor carried over any one's shoulders, with the head hanging downwards, nor rolled upon the ground, or over a barrel, nor lifted up by the heels, that the water may run out of the stomach.

“ Both reason and experience prove, that all these methods are extremely dangerous, and often destroy the small remains of life.

“ The

“ The unfortunate object should be cautiously conveyed by two or more persons, or in a carriage upon straw, lying as on a bed, with the head a little raised, and kept in as natural and easy a position as possible.

“ 2d, The body, being well dried with a cloth, should be placed in a due degree of heat, but not too near a large fire: The windows or doors of the room should, however, be left open, and no more persons be admitted into it than those who are absolutely necessary, as the life of the patient greatly depends upon their being exposed to a pure air.—The warmth, most promising success, is that of a bed or a blanket properly warmed.—Bottles or bladders of hot water, or hot bricks wrapt in cloths, should be laid at the soles of the feet, in the joints of the knees, under the arm-pits, &c. the shirt or cloaths of an attendant, the skin of a sheep fresh killed, the natural and kindly warmth of a healthy person, lying by the side of the body, have been found, in many cases, very efficacious.

“ Should these accidents happen in the neighbourhood of a warm bath, brew-house, baker, salter, soap-boiler, or any fabric where warm lees, ashes, grains, sand, water, &c. are easily procured, it would be of the utmost service

to

to place the body in either of these, moderated to a degree of heat, but very little exceeding that of a healthy person, viz. 98 deg. of Fahrenheit's thermometer.

“ 3d, The subject being placed in one or other of these advantageous circumstances, as speedily as possible, various stimulating methods should then be employed.—The first and most efficacious is, to blow with force into the lungs, by applying the mouth to that of the patient, closing his nostrils with one hand, and gently expelling the air again, by pressing the chest with the other, imitating the strong breathing of a healthy person.

“ Whilst one assistant is constantly employed in this operation, another should throw the smoke of tobacco up by the fundament into the bowels, by means of a tobacco-pipe or fumigator, such as are used in administering tobacco-clysters: A pair of bellows will serve until the others can be procured. A third attendant should, in the meantime, rub the body, chest, back, and arms, with a coarse cloth or flannel dipped in brandy, rum, gin, salt and water, or strong vinegar, so as not to rub off the skin: Spirit of hartshorn, ammoniacal salts, or any other stimulating substance, must also be applied to the nostrils, and rubbed

upon the temples very frequently.—The body should at intervals be shaken also, and varied in its position.

“ N. B. Bronchotomy, or opening a passage to the lungs through the wind-pipe, may be necessary, when the air will not pass by the mouth into the chest ; but this must be always left to the judgment of a surgeon.

“ 4th, If there be any signs of returning life, such as gaspings, twitchings, or any convulsive motions, the return of the natural colour and warmth, and of the pulse, bleeding, either in the arm or jugular vein, or temporal artery, now becomes particularly necessary. The throat should also be tickled with a feather, in order to excite a propensity to vomit ; and the nostrils also with a feather, snuff, or any other stimulant, so as to provoke sneezings.—A tea-spoonful of warm water may be administered now and then, in order to learn whether the power of swallowing be returned ; and if it be, a table-spoonful of warm wine, or brandy and water, may be given with advantage, but not before, as the liquor might get into the lungs before the power of swallowing returns.—The other methods should be continued with vigour, until the patient be gradually

ally restored ; and, even in cases where immediate success does not follow the endeavours used, they ought not to be remitted for two hours or upwards ; as frequently, after that term, symptoms of life have appeared.'

The apparatus here recommended, consisting of a fumigator for injecting tobacco smoke, wooden pipes for blowing into the nostrils, phials with spirits, &c. may be obtained for the sum of L. 1 : 9 : 6 ; and, this excepted, no other expence, unless when an accident does happen, is required.

Of the letter from Dr Cullen to Lord Cathcart, which states, in a new point of view, many interesting particulars respecting this subject, we propose to give a full account in a future number.

Meanwhile, when we consider that it is impossible to say, whose friends and family may first be benefited by this institution, or who may soonest be plunged into the depth of distress, if it be neglected, there can be little doubt that it will be carried into execution with a zeal, activity, and perseverance, proportioned to the patronage by which it is introduced, and to the humane and valuable purposes which it proposes.

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Dr Haygarth, physician at Chester, in a letter to Dr Duncan, communicates the following particulars respecting the flowers of zinc. " Soon after Dr Gaubius's *Adversaria* were published, I tried the flowers of zinc in epileptic and other convulsive disorders, increasing the dose from one grain to twenty, without producing any sensible effect, and hence concluded the remedy to be perfectly inert. But, upon reading Dr Wall's letter inserted in the *Medical Commentaries*, I procured some other flowers of zinc, which I could depend on as genuine, from my friend Mr Aikin, who gives chemical lectures to the students of the Warrington academy; and, in one case that I have given these, beginning with one grain, and increasing the dose to two, they produced a slight nausea, were gently laxative, and seemed to have a good effect in stopping the fits, which had been produced by affections of the mind in a young woman of great sensibility. From comparing these facts, I was induced to suspect that the flowers I had at first used were not genuine, though

said

said to be procured from a celebrated chemist in London. In order to ascertain this point, I made two comparative trials of the different specimens. On adding vitriolic acid to the London flowers, it effervesced; Mr Aikin's did not. On exposure to a strong heat, the white colour of the former was not changed; but the latter, when hot, became yellow, and, on cooling, became white again. As this last property is the best and easiest test of the flowers of zinc, and perhaps not generally known, it may be useful to give such a hint, that others may not be imposed upon by absorbent earth, as well as myself.

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Dr Parr, physician in Exeter, in a letter to Dr Duncan, has the following observations respecting a case of angina pectoris. "I have lately met with a case of angina pectoris. It answers perfectly to Dr Heberden's description in the Medical transactions, except that the fits were, from the first, accompanied with a shortness of breathing. They have been of eight years continuance, so that you cannot suppose I have much power over them. They were come too to such a height as to at-

tack him in the night, or when sitting still. They are a little mitigated by the frequent use of laudanum. As they were most probably convulsive, I applied a large blister to the sternum, from whence they usually began. This has entirely prevented their arising from that part, and now they begin from about the middle of the biceps muscle. This is, to me, almost a certain proof of there being no local affection of the breast from whence they generally arise; and it gives us some light into the nature of the affection.

* * * * *

Mr Rouelle of Paris has, we hear, lately presented several very curious memoirs to the royal academy of sciences. The titles of the most interesting are, 'Memoir sur la presence de l'alkali mineral tout formé dans les vegetaux, et sur le moyen de l'en retirer sans le secours de la combustion ou d'incineration.' In this he supports and confirms an opinion before taught by Margraaf. 'Experiences et observations sur le sel qu'on trouve dans le sang de l'homme et des animaux, ainsi que dans les eaux des hydropiques.' This salt he proves to be the fossil alkali or Natron

tron of the antients. With the acid of vitriol, and the ferum of the blood, he can form a true sal. Glauberi.

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The college of physicians of London will, we are informed, publish, in a short time, the first part of the third volume of their Medical transactions, with an advertisement signifying the discontinuance of the work for the present.

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We learn that some ingenious philosophers in London, have lately made upon themselves some curious experiments, to try how much heat the human frame can bear without apparent injury. They staid in a stove till the thermometer shewed two hundred and eleven degrees on Fahrenheit's scale; the chains of their watches were too hot to be touched, and the buckles of their shoes blistered the skin underneath. A full account of these experiments will appear in the next volume of the Philosophical transactions. In the meantime, the bare mention of this fact may afford curious reflections to our readers.

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Dr Priestley, in a letter to Dr Percival at Manchester, communicates to him the following curious

ous fact. "Since I wrote you, I have made many experiments on vegetable acid air, and on the extraction of air from various substances. From Roman vitriol and sedative salt, I get air of nearly the same goodness as common air. But Mercurius calcinatus per se, red precipitate of mercury, and red lead, yield air about six times as good as common air. This appears both by the test of nitrous air, and by a mouse living in it. I have made many other original experiments since I wrote you; but the particulars are too tedious for a letter."

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Whan At Tong, a native of China, at present in London, happening to be at the house of a gentleman there, who, among other Chinese articles, had in his possession a drawing representing a naked man, with straight lines in different parts of the figure, was asked what these meant? He replied, that such figures were intended for the younger practitioners in physic, to teach them to what parts of the body the cauterizing pin should be applied, in order to remove a disorder in other corresponding parts. The Chinese practitioners attribute very great powers to the actual cautery, and have frequent recourse to it. He, at the same time, shewed a scar near the first joint of his thumb,

thumb, where he had been cauterized for a pain in his head.

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On the 21st of April, in an area granted by the College of Surgeons of Edinburgh, in the neighbourhood of their hall, the foundation-stone of a building, for the use of the medical society of students in the university, was laid by Dr Cullen, attended by the other medical professors, and by all the members of the society at that time in Edinburgh.

In this building, it is intended that the society shall be furnished with a hall for their weekly meetings, with an apartment for the reception of their valuable library, with a laboratory for chemical experiments, and with a repository for anatomical preparations, and other curious subjects in the different branches of natural history. It may with some confidence be presumed, that, from each of these particulars, the improvement of attentive students, in the fundamental parts of medicine, will be greatly forwarded.

Before proceeding to lay the foundation-stone, the company assembled in the Surgeon's-hall, and were addressed in an elegant, and very suitable oration by Mr Blane, one of the annual presidents of the society. In this oration, after displaying

playing the advantages which the university of Edinburgh has for many years past enjoyed, as a school of medicine, and the particular benefits which the most industrious of its students have derived from the medical society, he pointed out, with great propriety, the singular improvements which will arise to the study of physic from the building now intended.

For defraying the expence of this building, contributions have been received from most of the members of the society, now settled in different parts, or still in the course of their studies; and from some other gentlemen who wish to encourage and improve an institution which has had no inconsiderable share in raising and supporting the reputation of the first medical college in the British dominions. The sum, however, which has hitherto been obtained, is by no means sufficient for the purpose. Drs Cullen, Hope, and Duncan, are appointed to receive farther contributions; and these gentlemen, with the annual presidents of the society, are a committee to whom the conduct of the building is entrusted.

S E C T.

S E C T. IV.

List of New Books.

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CHIRURGICAL Observations relative to the cataract, the polypus of the nose, the cancer of the scrotum, the different kinds of ruptures, and the mortification of the toes. By Percival Pot, F. R. S. and Surgeon to St Bartholemew's Hospital. 8vo, London.

Essays and cases in surgery. The whole illustrated with copper-plates. By John Aitken Surgeon, Fellow of the College of Surgeons, and one of the surgeons of the Royal Infirmary, Edinburgh. 8vo, London.

Prestwich's dissertation on mineral, animal, and vegetable poisons; containing a description of poisons in general, their manner of action, effects on the human body, and respective antidotes. With experiments and remarks on noxious exhalations from earth, air, and water. Together with several extraordinary cases, and elegant engravings of the principal poisons of the different countries. 8vo, London.

A

A critical inquiry into the ancient and modern manner of treating the diseases of the urethra, with an improved method of cure. By Jesse Foot of Salisbury-street, one of the Company of Surgeons in London, and privileged practitioner from the College of St Petersburg. 8vo, London.

Remarks on Mr Thomas Henry's improved method of making magnesia alba; with an easy process for preparing it without any gritty matter. To which is added an appendix. By a physician.

A discourse on the Torpedo, delivered at the anniversary meeting of the Royal Society, November 30. 1774. By Sir John Pringle Bart. President. 4to, London.

Inquiries into the nature of a new mineral acid discovered in Sweden, and of the stone from which it is obtained. To which is annexed an idea of an artificial arrangement, and of a natural method of fossils; with examples in the crystals, spars, and earths. By Sir John Hill. 8vo, London.

Myographiae comparatae specimen; or, A comparative description of all the muscles in a man, and quadruped. By James Douglas, M.D. A new edition, with improvements; to which is

now

now added an account of the blood-vessels and nerves. 8vo, Edinburgh.

A treatise upon the extraction of the crystalline lens; by George Borthwick, surgeon of the fourteenth regiment of dragoons. 8vo, Edinburgh.

Les avantages de l'inoculation, et la meilleure methode de l'administrer, ouvrage traduit de la dissertation Latine couronnée par l'Academie Royale des Sciences, Inscriptions, et Belles Lettres de Toulouse; et composé par M. Camper, M. D. professeur d'anatomie, de chirurgie, et de medicine dans l'université de Groningue, des academies de Paris, de Londres, de Harlem, &c. 8vo, Toulouse.

Artis medicae principes, Hippocrates, Aretaeus, Alexander Tralianus, Celsus, Aurelianus, &c. Recensuit, praefatus est Albertus de Haller; 11 vols. 8vo Lausannae.

L'inoculation justifiée; ou, dissertation pratique et apologétique sur cette méthode, avec un essai sur la mue de la voix; nouvelle edition. Par M. Tiffot. 12mo, Lausanne.

Abrégé des elemens de botanique; ou, methode pour connoitre les plantes. Par de Tournefort. 12mo, Avignon.

Con-

Conchyliologie nouvelle et portative ; ou, collection de coquilles propres à orner les cabinets des curieux. 12mo, Paris,

Observations sur différents cas singuliers relatifs à la médecine pratique, à la chirurgie, aux accouchements, et aux maladies vénériennes, auxquelles on a joint quelques réflexions en faveur des étudiants. Par M. Fichet de Flechy, M.D. 12mo, Paris.

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C O N T E N T S.

BOOKS.

<i>White, W. Observations on the Use of Dr James's powder, and other antimonial preparations in fevers.</i>	115
<i>Kirkland, Thomas. Treatise on child-bed fevers.</i>	124
<i>Minvielle, M. Traité de médecine, theorique, et pratique, extrait des ouvrages de M. de Bordeu.</i>	137
<i>Fougeroux, M. Premier memoire sur le petrole de Parme.</i>	153
<i>Fougeroux, M. Seconde Memoire sur le petrole, et sur des vapeurs inflammables.</i>	155
<i>Lavoisier, M. Premier memoire sur le nature de l'Eau.</i>	158
<i>Lavoisier, M. Second memoire sur le nature de l'Eau.</i>	163
<i>Morand, M. Recherches sur quelques conformations monstreuses des doigts.</i>	165
<i>Priestley, J. Experiments and observations on different kinds of air.</i>	168

MEDICAL OBSERVATIONS.

<i>The case of an angina pectoris, which terminated fatally, with the dissection. By Thomas Percival, M. D. F. R. S. and S. A.</i>	180
<i>Observations on the use of cold bathing in the cure of tetanus. By Mr J. Cochrane surgeon in Nevis.</i>	183
<i>The history of an excessive discharge of water from the uterus during pregnancy. By D. J. Alexander physician in Halifax.</i>	187
<i>Observations on the flowers of zinc, and cuprum ammoniacale, and on two affections of the throat. By Dr Louis Odier physician in Geneva.</i>	191
<i>The history of a case of imperforate hymen. By Mr Fielding Best Finney, surgeon at Leek.</i>	194
<i>Extract of a letter from Dr Percival, to Dr Duncan, on the external use of preparations of lead.</i>	199

MEDICAL NEWS.	206
----------------------	-----

LIST OF NEW BOOKS.	219
---------------------------	-----

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M,DCC,LXXV.

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M E D I C A L
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S E C T. I.

An Account of Books.

I.

The Anatomy of the Human Gravid Uterus exhibited in Figures. By William Hunter, Physician Extraordinary to the Queen, Professor of Anatomy in the Royal Academy, and Fellow of the Royal and Antiquarian Societies. Folio, London.

FROM the title of the work now before us, it will necessarily be concluded, that in a publication of this nature, no proper idea can be conveyed of the discoveries or improvements which it contains. The information derived from figures, arises only from accurate and attentive inspection. But, while we can attempt nothing

farther than to give such of our readers as have had no opportunity of examining these figures some account of the subjects which are here delineated, we consider this to be a work in its nature too important to be totally neglected. It illustrates a branch of the anatomy of the human body which has been hitherto imperfectly understood; a branch which is the foundation of a science on which the preservation of many of the human species must depend. For, admitting that the interposition of art in the birth of infants is seldom requisite, and that, upon the whole, it has been productive of greater evils than advantages; yet, no one will refuse, that it is frequently the only means of preserving both mother and child. A proper application of the art of midwifery, however, can be founded only on an accurate knowledge of the parts principally concerned. But, besides the advantages thus resulting from the anatomy of the gravid uterus, it must farther be viewed as the only basis for a proper knowledge of the diseases of the pregnant state; hence, that it claims the attention of every practitioner, can admit of no doubt.

That the anatomy of the gravid uterus, however, has hitherto been investigated with
less

less success than most other parts of the human frame, will not be refused; nor does this defect seem to have proceeded from want of attention, or of a just sense of the importance of the subject. From the wise provisions of the author of our nature, death is a less frequent occurrence during the pregnant state, than at any other time; and, when it has happened, the body has seldom been subjected to the attentive examination of men of sufficient abilities to make the proper use of it. It is now to be hoped, however, that the inconveniences which have hitherto arisen from such circumstances, are in some measure removed. The author of the work before us, seems to have employed uncommon opportunities to the utmost advantage. Of the accuracy of his figures, without similar means of investigation, we cannot pretend to give any opinion; of their elegance, our readers may consider us as by no means competent judges; yet, while the well known abilities of the author must remove all doubt respecting the former, the very names of the artists he has employed can leave no hesitation with regard to the latter. For us, it is enough to say, that, in the execution of the

present work, neither pains nor expence have been spared to improve this branch of anatomy.

The ten first figures are taken from the dissection of a woman, who died about the end of the ninth month of her pregnancy. Thus they exhibit the uterus at its greatest degree of distension, and the state of the surrounding viscera in that situation. The first plate represents the subject as it appeared when the abdomen was opened by a crucial incision; the four angles of the containing parts being turned outwards. In this figure, the womb possesses all the umbilical and hypogastric regions; its surface is interspersed with a number of small vessels, the greatest part of which are veins, which, we are told, were filled with blood only, and disappeared after the subject had been preserved for some time. In point of situation, it is a little oblique, inclining towards the right side. Its form is irregular at some places, projecting more than at others; this, Doctor Hunter supposes, may be owing partly to its being moulded on the neighbouring bowels, particularly at its fundus, and partly to its contents. From the last of these circumstances, a swelling is observable on the left side of it, where the middle of the placenta adhered, and on the right, where the buttocks of the

the

the child lay. The round ligaments appear very conspicuous in this figure, the left being considerably longer than the right, from the oblique situation of the womb. The Fallopian tubes are almost hid, little more than the beginning of the right, and the middle part of the left, being exposed to view.

In the second plate, we have a view of the same subject from the right side; the upper abdominal flap, and the containing parts of the hypochondrium being removed, that the abdominal viscera may be seen in their natural situation. In the third, a view from the left side. Here the convolutions of the small intestines are considerably lower, and in greater quantity than on the right side, in some measure, from the obliquity of the womb, but principally from the liver coming low down in the right side, and leaving little space for the intestines.

The fourth plate exhibits a fore view of the womb, and of the contents of the pelvis. In the fifth, the womb in the same situation is laid open; its substance is cut through on the right side, and turned to the left; by which means, part of the decidua and of the placenta, as well as the inside of a portion of the womb, are exposed in the

state in which they appeared when injected. Dr Hunter observes, that there was a manifest constriction at that part of the womb which is surrounded by the brim of the pelvis, immediately above which, the womb swelled out, being there embraced by more yielding parts. In the section of the womb, the veins are of a light colour and large, the arteries dark, and in small proportion. At the upper part of the womb, both arteries and veins are small, in comparison with what they are lower down, where they were passing from the sides of the womb to the placenta; and the thickness of the womb bears some proportion to the size of its vessels in these different places. The decidua or external membrane is seen full of small branching veins, which passed into it from the external surface of the womb. At one part, the opaque decidua being removed, the chorion and amnion appear, both of which were so transparent, that the child's skin could be seen distinctly through them. In these membranes, there is no appearance of injected veins. From that part of the inside of the womb which covered the placenta, many veins are delineated of a flattened figure, with
numerous

numerous anastomoses passing from the womb to the placenta in a slanting direction.

The sixth plate represents the child in its natural situation in the womb. The head is lodged in the lower part, or in the cavity of the pelvis, and the body lies principally on the right side. Its position is diagonal, so that its posterior parts are turned forward, and to the right side of the mother; and its fore parts are directed backwards, and to the left side. The seventh exhibits a fore view of the cavity of the womb, as it appeared when the child was taken out, the investing membranes being left. The womb is represented in a loose rugous state, its whole internal surface is covered by the membranes, through which the injected veins are distinctly seen.

In the eighth plate, the empty womb is turned down over the pudendum, to afford a view of the parts which lie immediately behind it, and which were in contact with it. The ninth plate gives a full side-view of the pelvis, with its contents and adjacent parts. The tenth plate consists of three figures. The first gives a view of the outside of the forepart of the womb as it appeared when quite dry, and is a specimen of the
uterine

uterine vessels at the part where they adhered to the placenta. The veins are readily distinguishable by their largeness and frequent anastomoses, from the arteries, which are small, less numerous, and serpentine. The second figure gives a view of the inside of the placenta injected by the umbilical vessels, after it was taken out of the womb. The wax had so completely filled all the cellular substance of the placenta, that we are informed it appeared every where through the chorion. We are farther told, that it was manifestly granulated, from which Dr Hunter concludes, that it had filled natural cavities. For, if it had filled the substance of the placenta by common extravasation, he thinks it would have formed itself into irregular and large masses. The third figure is taken from a different subject, and gives a view of a portion of the internal surface of the womb, from a woman who died two days after delivery. It was our author's intention to have published these ten plates by themselves immediately after the drawings were made, which was in the year 1750, and this last figure was added, as the only supplement which he could give at that time.

The eleventh and twelfth plates are taken from another subject, a woman who died of a flooding
during

during the ninth month of her pregnancy. The one represents a fore view of the womb with the ossa pubis in their natural situation. The appearance of the large vessels which were injected, shews that the placenta was attached forwards, and to the lower part of the womb. The other gives a view of the womb and vagina fully opened on the back part, shewing the situation of the child, and of the lower part of the placenta at the inside of the mouth of the womb under the child's head, and detached from the womb, which occasioned the fatal haemorrhage.

The thirteenth plate is taken from a third subject, also in the ninth month of pregnancy. It represents a fore-view of the womb, all the inclosing parts being cut through, and turned up, to shew the situation of the child, which in this case had its head upwards. The fourteenth plate is taken from a fourth subject of nine months, and consists of three figures, representing the muscular fasciculi on the inside of the womb.

The fifteenth plate consists of five figures taken from another subject at the full time. This woman, immediately after a natural labour, grew faint, without any apparent cause, and died within the space of two hours. The arteries were in-
jected

jected with red wax ; and the figures are intended to explain the arterial system of the pregnant womb. From all these figures, it is evident, that the arteries on the womb have a serpentine course, and frequent anastomoses. From comparing the arteries in the second and third figures, it appears, that they are much larger and more convoluted in that side of the womb to which the placenta is fixed, than in the opposite. The fifth figure represents the right ovary and tube ; in the substance of the ovary, the corpus luteum is seen split through the middle ; no vessels appear at its centre, but all around that centre it is very vascular.

The sixteenth plate is taken from a sixth subject, at eight months, and represents a full view, from the right side of the womb, so injected and dissected as to shew the approach and first general branchings of the uterine vessels. The hypogastric vessels send down numerous branches to the vagina, and mount up upon the side of the womb, to anastomose with the respective spermatic vessels. The spermatic vessels, in their approach to the womb, send up numerous branches forward to the tube, and backwards to the ovary ; then passing to the side of the fundus uteri, they
anast.

anastomose with the hypogastrics. The principal branches of both, in the present figure, go to the fore-part of the fundus uteri, where it seems the placenta was attached.

The four following plates are taken from the same subject. One of them represents a direct fore-view of the womb after the outer strata of its substance had been dissected off, and shews the large uterine vessels in their way to the placenta. Another gives a view of the fundus uteri, and shews the plexus of large vessels, especially the veins opposite to the placenta. In a third, the substance of the womb is cut through at the under part, and turned up over the fundus. It represents a part of the membranes, and about half of the placenta, together with the corresponding internal surface of the womb, and the vessels passing between the womb and the placenta. And, in the last, we have a fore-view of the womb fully opened, to shew the child in its natural situation.

The twenty-first and twenty-second plates are taken from a subject about the seventh month of pregnancy. One of them represents the womb opened by a crucial incision; the four corners being turned aside from the secundines, to shew the child, and the waters, through the enclosing mem-

membranes. The other represents the situation of the contents of the pelvis.

The two following plates are taken from a subject at the sixth month of pregnancy. In the twenty third, we have a fore-view of the womb injected; the anterior part, both of the womb and membranes, being cut away, and the liquor amnii taken out, to shew the foetus, with a part of the placenta and the navel-string. Here the placenta is seen adhering to the posterior part of the womb towards the fundus, and the navel-string passing first downwards over the left shoulder of the child, and then upwards behind its body, till it terminates in the placenta. The twenty-fourth consists of four figures. The first shews the placenta adhering to the fundus and back-part of the womb, its spongy substance being filled by the injection of the uterine vessels. Dr Hunter observes, that none of the wax injected into the vessels of the womb had passed into the branches of those vessels which compose the navel-string, but that the cells in the spongy part of the placenta were universally loaded with wax. The second represents a section of half of the placenta, to shew the thickness which it had acquired, by its spongy cavities being filled with wax. The third and fourth

fourth figures represent the decidua from the forepart of the womb, with the convoluted uterine arteries which are dispersed through it.

The twenty fifth plate is taken from a subject at the fifth month of pregnancy. Here we have a representation of the womb fully opened, and the foetus taken out, to shew the exact dimensions and proportions of the child at this period of utero-gestation. The twenty-sixth plate is taken from another subject at the fifth month, and contains four figures, shewing the circumstances of a retroverted womb. The first gives a view in miniature of the abdomen fully opened, and the bladder enormously distended. In the second, the bladder is represented cut through the middle, and opened at its lower part, to shew the situation of the os uteri. The third exhibits a back view of all the contents of the pelvis, consisting principally of the retroverted womb. And the fourth represents the womb opened, to shew the secundines, and their contents.

The three following plates are taken from a subject in the beginning of the fifth month. One of them contains two figures; in the first of which we have a back-view of the womb, with the vagina slit up, to shew the state of the cervix and

os uteri ; and the second represents the same womb fully opened, shewing the decidua reflexa upon the chorion, and the inside of the neck and orifice of the womb. Another consists also of two figures ; in the first of which the womb is turned upside down, that the weight of its contents might carry them towards the fundus. Thus we have a view of the border of the placenta, where the decidua is reflected from the inside of the womb to the outside of the chorion ; at which last place it makes the decidua reflexa. From this figure Dr Hunter thinks it evident, that the decidua was not, like the other membranes, extended cross the passage in the neck of the womb, but that it is continued a little way down that passage, and there insensibly lost in the glutinous cement. The second figure represents the inside of the womb after the placenta had been separated. The last of these plates consists of five figures. The first represents the ovum taken out of the womb, shewing the external surface of the placenta, and the ragged edge all round, where the decidua reflexa was torn through. In the second figure, we have a view of the internal surface of a portion of the decidua considerably magnified, shewing its peculiar
cribri.

cribriform appearance. The third is a delineation of the ovarium and corpus luteum cut thro' the latter of which, even at this period of pregnancy, had an apparent cavity. The two remaining figures in this plate are taken from subjects at nine months; the one represents a portion of the decidua, having its vessels filled with red blood; the other, a portion of the womb and secundines, so disposed as to exhibit distinctly the different strata of these parts.

The thirtieth plate is taken from a subject at the fourth month of pregnancy. Here the womb is injected, and opened on its fore-part; so that we have a full view of the external surface of the placenta, with the vessels passing into it from the womb. It shews likewise the state of the cervix uteri externally, and its relation to the bladder and urethra. The thirty-first plate contains three figures from the same subject. In the first, we have a back-view of the womb, so opened as to expose the outer surface of the decidua, and to shew the state of the neck of the womb. The second exhibits the same object, the inverted portion of the womb being cut off, and the decidua removed. Thus we have a view of the foetus in the liquor amnii, through the transparent

membranes. The third represents the corpus luteum in the left ovary cut through, and shews its cavity at this period.

The thirty-second plate contains two figures taken from a subject at the end of the third month of pregnancy. The first represents the womb opened, to shew the child, and the state of the cervix uteri at this period. The second exhibits a longitudinal section of the womb, placenta, and membranes, together with the child, at some distance, but still attached by the navel-string. The thirty-third and thirty-fourth plates, which conclude this work, contain many figures representing the womb at the earliest periods of utero-gestation, viz. from nine to three weeks after conception. From these figures, it appears that the decidua is at first a thick membrane of a gelatinous texture, which adheres to the whole triangular cavity of the fundus uteri; that the tubes terminate on its internal surface; that the chorion is lodged in its duplicature; and that, in proportion as the chorion extends, it encroaches upon the cavity of the decidua, stretching its interior lamella, till at length, the cavity being obliterated, that lamella comes in contact with the
inside

inside of the decidua. And it farther appears, that the decidua constitutes the uterine part of the placenta.

II.

Extract from the Journals of the Board of Police, concerning the recovery of Persons drowned, and seemingly dead. 4to, Edinburgh.

OF this publication, which is written on a subject in its nature highly interesting, mention was made in our last number. It consists of several parts. But the chief of them are a paper presented to the Board of Police in Scotland, by Lord Cathcart the president of that Board, respecting the recovery of drowned persons; and a letter from Dr Cullen, first physician to his Majesty in Scotland, to Lord Cathcart, on the same subject. From the first of these, we have already extracted the directions given by the board of police, for the information of persons not acquainted with the medical art. In the second, the author enters further into the explanation of principles, and the detail of practice. We imagine, therefore, that a short view of it, will not be unacceptable to our readers.

Dr Cullen begins with observing, that, in general, few endeavours are used for the recovery of drowned persons, because by-standers, and even practitioners in medicine, have hitherto been too precipitate in concluding them to be in an irrecoverable state. Mistakes on this subject, however, he hopes will now be corrected, from the many instances which there are of the recovery of persons, in whom all the ordinary signs of life had disappeared, and from engaging men to consider the reason of the thing itself. To this purpose, he observes, that, in men and other animals, life does not entirely cease on the cessation of the action of the lungs and heart. Though circulation be necessary for the support of life, yet the living state more especially depends upon a certain condition in the nerves, and muscular fibres, by which they are sensible, and irritable, and upon which the action of the heart itself depends. This may be called the vital principle in animals, and, as long as it subsists to such a degree, that it may again be restored to its activity and vigour, the action of the heart and lungs, the circulation of the blood, and all the other functions of life, although they have long ceased, may be again perfectly

fectly restored. The author, however, does not pretend to determine how long the vital principle may subsist in the human system after its seeming extinction. But, from the analogy of other animals, and from many well attested facts, he concludes that it may subsist very long; which should prevent us from rashly setting bounds to the possibility of the recovery of drowned persons.

Besides this, as from the dissection of drowned persons, it appears that water seldom enters the cavity of the lungs, and that, in most cases, no hurt is done to the organization of the vital parts, he supposes that the seeming death of drowned persons is entirely owing to the stoppage of respiration, and consequently of circulation, by which means the body loses its heat, and with that the activity of the vital principle. But it must be possible to recover drowned persons, as long as this principle is capable of being again rendered active, which the experience of late years has shewn may be effected by different means. Hence, although persons have lain for several hours in the water, and be to all appearance dead, attempts ought to be made for their recovery; nor is the labour of many fruitless trials

to be put in competition with one instance of success.

Besides mentioning the means to be employed for the recovery of drowned persons, Dr Cullen takes notice of those practices hitherto in common use, which he thinks should be forbid. He is of opinion, that all those practices, which were recommended, upon the supposition that the death of the patient was occasioned by a quantity of water being taken into the body, and that a recovery must be brought about by its being again evacuated, proceeded upon a hypothesis altogether false; while, at the same time, they were always attended with the danger of bursting some vessels in the brain or lungs, and thus, of rendering cases incurable, which were not so from the drowning alone. Hence, he dissuades from the hanging up of persons by the heels, from setting them on the crown of the head, from rolling them upon a cask, or such like rough practices. Although he allows, that, where the natural heat is not entirely extinguished, and where the irritability of the moving fibres is not greatly impaired, brisk agitation may be the only means necessary for restoring the action of the vital organs; yet he asserts, that, in all cases, violent concussion can
never

never be safe, and is never necessary. He therefore advises, that, even in transporting the body from one place to another, it be kept stretched out, laid upon one side, with the head and upper parts a little raised, care being taken to avoid the neck's being bent much forward, or any other posture exposing to an improper compression. When laid upon straw in a cart, in the manner described above, he allows that, in most cases, a brisk motion will do no harm.

For bringing about a recovery, he considers the restoration of heat to be the first and most essential step. With this view, he advises that the body, if not naked when the accident happened, should be immediately stripped, and wrapped in warm blankets, if the air be cold. But if the sun shines out very hot, he thinks that the naked body, after being carefully dried, may, with advantage, be exposed to it.

As another means for the recovery of heat, he advises, where the situation of the accident will allow it, that the body should be immersed in a warm bath. At breweries, distilleries, or the like, a sufficient quantity of warm water may in general be immediately obtained. And even in small villages, where there is no such convenience,

ence, it may be had in a very short time, by many fires being at once employed in heating small quantities. He advises that the temperature of the water, in which the body is at first immersed, be somewhat under its natural heat, and that by the addition of warm water, it be raised, gradually, to a heat a little above it. Another means by which the body may be conveniently warmed, particularly if it be of a small size, is by a person's lying in bed with it, taking care to turn it frequently, and to rub attentively those parts not in contact with the warm body.

Where these measures cannot be taken, Dr Cullen recommends careful friction with coarse cloths well warmed, and the application of hot bricks, or bottles filled with warm water, to the feet. He dissuades from friction with spirits, as proving an impediment to the rubbing; and he thinks that nothing farther in this way is admissible, than the application of vinous spirit of sal ammoniac, to the wrists and ancles only. It has been a common practice to cover the body with warm grains, ashes, salt, sand, and the like. These, however, he imagines, will seldom be obtained here, while, at the same time, they may interfere with other measures more essentially necessary.

Next

Next to the recovery of heat, Dr Cullen thinks, that endeavours should be directed for restoring the action of the moving fibres. As the intestines, both from their internal situation, and peculiar constitution, retain irritability the longest, he thinks, that stimulants will have more effect when applied to them, than when applied to any other part. The action of the intestines will, he imagines, be most effectually excited by distension with air. Heated air is preferable to cold. But still farther advantages may be obtained from impregnating the air with something which, by its acrimony, may be powerful in stimulating the intestines. Hence he recommends that the smoke of tobacco should be thrown into the intestines by a fumigator of a particular construction, and which, for this, as well as other purposes, ought to be in the hands of every surgeon. Where tobacco-smoke, or warm air, cannot be thrown in, he advises the injection of warm water, to the quantity of three or four English pints, half an ounce of common salt being dissolved in each pint, and a little brandy or wine added to it.

The third intention of cure which Dr Cullen proposes, is the restoration of the action of the
lungs

lungs and heart. Means for this purpose may be used while the measures already proposed for restoring the heat of the body and the activity of the moving fibres are employed. But they are more especially necessary, after the former have been employed for some time. For restoring the action of the lungs, it is necessary that they should be inflated. On this subject Dr Cullen acknowledges his obligation to Dr Monro, who has made many experiments for ascertaining the method in which it may be done most advantageously. Dr Monro has found, that it may be much more conveniently effected, by blowing into one of the nostrils, than by blowing into the mouth. He has also found, that, with the assistance of a wooden pipe, fitted at one extremity for filling the nostril, and at the other for being conveniently blown into, a person of ordinary strength will be able to inflate the lungs to a sufficient degree. And he thinks, that at first, warm air from the lungs of a living person, will be most conveniently employed. But where long inflation is requisite, a pair of bellows must be employed, large enough to contain at once the quantity of air necessary to inflate the lungs to a due degree. While
blowing

blowing is practised, the passage of air into the stomach, by the gullet, may be prevented by gently pressing the head of the wind-pipe backwards, as thus the gullet will be straitened, while the passage through the larynx is not interrupted. The other nostril and mouth must, at the same time, be accurately closed, to prevent the escape of air by these passages. After the blowing has produced a sufficient distension, the air must be again expelled, by pressing the breast and belly, and thus imitating, as exactly as possible, the alternate motions of natural respiration.

Where the lungs cannot be inflated by blowing into the nostril, Dr Monro maintains, that a crooked tube, resembling the catheter used for a male adult, may be introduced directly into the trachea. For this purpose, the surgeon should place himself on the right side of the patient, and introducing the fore-finger of his left hand at the right corner of the patient's mouth, he should push the point of it behind the epiglottis, and using this as a directory, he must enter the tube, which he holds in his right hand, at the left corner of the patient's mouth, till the end of it be passed beyond the point of his fore-finger ; and it is then

then to be let fall, rather than pushed, into the glottis. This practice, while it is equally certain, is unquestionably much preferable to bronchotomy, which, however, Dr Cullen allows may be tried, where a skilful operator is at hand. But he supposes that it will hardly be of any advantage where the blowing into the nostril has entirely failed. By blowing into the lungs, respiration may not only be renewed, but that frothy matter, which is found in the chests of drowned persons, and which our author supposes to be the most common cause of their mortal suffocation, may be expelled. Hence he recommends that it should be assiduously continued, in the manner directed, for an hour or two together.

These, according to Dr Cullen, are the means chiefly to be depended upon, for the recovery of drowned persons. But, besides these, he mentions also some others which may at times prove of considerable service. The opening of the jugular veins may relieve congestion in the head, and is indicated where there occurs a livid or purple colour of the face. But, when some motion of the blood is restored, this evacuation must be made with great caution, lest it should weaken the recovering powers of life.

Stimulants

Stimulants applied to sensible parts of the body, such as holding quick-lime spirit of sal Ammoniac to the nose, or putting a little of it, on a rag, into the nostrils, will sometimes be useful for recovering the activity of the vital principle. It has also been common to pour wine or brandy into the mouth; but till some marks of the recovery of swallowing and respiration appear, Dr Cullen considers this practice to be dangerous. As soon as the power of swallowing is restored, he thinks there can be no objection to an emetic, which will be serviceable, from the action of vomiting proving a stimulus to the whole system. As an emetic, he recommends Ipecacuana wine, given by tea spoonfuls, till it produces its effect. Respecting stimulants in general, he observes, that, where the heat and irritability are but little impaired, a recovery may often be effected by these alone; but, on the contrary, when the body has lain long in water, and the heat is very much extinguished, he thinks, that the application of any other stimulant than that of tobacco smoke to the intestines, can be of very little service; and that other measures ought never to interfere with those which are to be used for recovering heat and the motion of respiration.

He

He concludes this letter, by observing, that, through the whole of this business, the proper means should be employed for several hours together, unless it happens, that, while no symptoms of returning life appear, the symptoms of death constantly increase. He farther adds, that many of the measures here proposed for the recovery of drowned persons, will be equally proper in other cases of suffocation; as for example, when it arises from strangling, the damps of mines, the fumes of charcoal, or similar causes.

III.

Observations sur les Effets des Vapeurs mephitiques, sur le corps de l'Homme, et sur les Moyens de rappeler à la vie ceux qui en ont été suffoqués. Nouvelle edition. Augmentée d'un extrait de quelques observations nouvelles qui confirment l'avantage du traitement que l'on conseille contre la suffocation par la Vapeur du Charbon; et dans laquelle on prouve, qu'il est avantageux de souffler dans la bouche de quelques nouveaux-nés, pour les appeller à la vie. Par M. Portal, Medecin consultant

sultant de Monsieur, Professeur de Medecine au College royal, de l'Académie des Sciences de Paris, de l'Institut de Bologne, de la Société royale des Sciences de Montpellier, et de la Société Medicale d'Edinbourg. 8vo. Paris.

IN the month of August 1774, two persons having been killed at Paris by the vapour of charcoal, the royal academy of sciences recommended it to Mr Portal to examine into the circumstances attending their death, and to make a report upon the subject. To this appointment we are indebted for the following treatise.

Mr Portal introduces his subject, by presenting us with the report which he made to the academy. He saw the two persons who had been suffocated, about five o'clock in the evening of the day on which the accident happened. At that time, their faces were coloured, their eyes bright, their limbs and under jaw flexible; their skin pliant, and sufficiently warm; and their bellies much swelled. Upon inquiry, he was informed, that they had been found dead about two hours after the smoke had got access to them; that they had been blooded at the jugular vein; that a vomit had been given; and that many attempts had been made

made to introduce the smoke of tobacco by the anus. All these means however had proved fruitless.

After there was sufficient evidence that the patients were in a state beyond the possibility of recovery, Mr Portal was anxious to add to our knowledge respecting the appearances to be met with in people killed in this manner, by opening their bodies. He, at the same time, hoped, that he should then be able more fully to elucidate the cause of their death. But the friends of the sufferers opposed his design. From this case, however, he was induced to enter upon the consideration of the subject, hoping to discover a more safe and certain method of recovery, than he imagines has hitherto been employed.

He begins, by enumerating the observations that have been made on the opening of the bodies of persons suffocated by the vapour of charcoal, by that of fermenting liquors, or other mephitic vapours. And he gives the following account of the appearances on dissection.

1st, The vessels of the brain are, he says, gorged with blood, and the ventricles of that viscus are filled sometimes with a frothy, sometimes with a bloody serosity.

2^d,

2d, The trunk of the pulmonary artery is much distended, and the lungs appear nearly in a natural state.

3d, The right ventricle and auricle of the heart, the venae cavae and jugular veins are full of frothy blood.

4th, Bloody serosity is often found in the bronchiae.

5th, The trunk of the pulmonary veins, and the left auricle, are either empty, or almost empty of blood.

6th, The blood found in the places that have been mentioned, is generally fluid, and as it were in a dissolved state. It is easily extravasated into the cellular texture, of the head particularly, because it is in this part that it abounds most.

7th, The epiglottis in suffocated persons is raised, and the glottis open and free.

8th, The tongue is much swelled, and can hardly be contained within the mouth.

9th, The eyes protrude and preserve their lustre to the second or third day. They are often even brighter than natural.

10th, The body preserves its heat for a long time. Nay, the heat is sometimes greater than it is during life, or at least consistently with health.

11th, The limbs are flexible for a long time after death.

12th, The face is more swelled, and often more red than usual.

13th, The neck and upper extremities are sometimes so much swelled, that they appear to be inflamed. These swellings, however, do not, like oedematous ones, preserve the impression of the finger.

In proof of the accuracy of these different appearances, Mr Portal either refers to the observations of practical authors, or to experiments made by himself upon animals.

After these remarks, our author proceeds to inquire into the cause of death in persons suffocated by mephitic vapours. He asks, whether there be not, among all the changes which appear in the bodies of persons so suffocated, some one upon which the others depend, and which may be regarded as the immediate cause of death? He considers the air charged with mephitic miasmata to be unfit for respiration; the ceasing of which

which stops circulation, accumulates the blood in the head, and induces apoplexy. He farther imagines, that mephitic vapours act upon the nerves, and affect them in a dangerous manner. He is of opinion, that they act also upon the blood, and rarify it so much, that it bursts the vessels which ought to contain it; hence the circulation is disturbed, and even stopt, the blood at the same time becoming dissolved. Of these three causes of death, he seems to insist chiefly on the stoppage of respiration; and he proceeds to shew, from the connexion of the blood-vessels, and the structure of the lungs, that the action of expiration must be attended with a flow of blood to the head.

He next takes notice of the opinion of some physicians who imagine, that the lungs of suffocated persons are in the state of full inspiration. After combating this opinion, and producing cases from dissection in opposition to it, he supposes, for the sake of argument, that it does happen. But he maintains, that still determination to the head must follow a long continued inspiration, as he affirms, that it is only by the expiration succeeding inspiration, that the blood is forced from the pulmonary artery into the veins.

He observes, that the circulation of the blood may be thus abated, or even to appearance suspended for a longer or shorter time, without the principle of life being extinguished; and that, for recovery in such cases, it is sufficient again to restore the circulation, or to wait till nature do it herself, an event which has taken place oftener than once.

Mr Portal next proceeds to the means of relief which ought to be employed with those who have been suffocated by mephitic vapours. He proposes, in the first place, copious bleeding at the jugular vein, to empty the vessels of the head, which are filled with blood in a highly rarified state; and, if one bleeding does not appear to be sufficient, he recommends that the operation be repeated.

He next recommends vinegar diluted with three times its bulk of water. This he thinks ought to be forced down the patient's throat, injected by the anus, and applied, in the way of friction, to the skin.

He urges much the necessity of exposing a suffocated person to cool and open air; and this he tells us may be done without the dread of any bad effect from cold.

With

With the same view, he recommends the throwing of cold water upon the body, a practice which, he observes, has been strongly enjoined, both by Messrs Borel and Sauvages, and which he maintains to be consonant both to sound theory and accurate practical observations.

He condemns the use of emetics, as imagining that they occasion too great determination to the head. He seems also at a loss to conceive the propriety of injections of tobacco-smoke. He imagines that the quantity of air thus introduced into the bowels must distend them. Thus it will push the diaphragm upwards, and prevent the expansion of the lungs. In this manner, it must prove an unsurmountable obstacle to the return of circulation and of life. In place, therefore, of tobacco-smoke, he proposes the use of irritating injections.

The last practice which he recommends, and which he considers to be the most certain means of recovery is, the inflating the lungs with air. For this purpose, he advises that it should be blown through the nostril, which he considers to be a more certain, and less hazardous method of introducing it than by the mouth. This he directs to be done by a tube insinuated into one nostril, while the other, together with the mouth

is kept shut. But, if every effort in this way should prove ineffectual, he recommends that bronchotomy should be speedily performed. This he considers to be, in such a case, the only expedient in our power for distending the lungs, and setting them again in motion.

When all these methods have failed, that nothing may seem to be omitted, he advises the scarification of the palms of the hands, and soles of the feet, and the application of dry cupping glasses to different parts of the body.

To the treatise, of which we have now given an analysis, some particular cases and observations, from different periodical works, are added, with a view of demonstrating the propriety of the practice which Mr Portal has here proposed.

IV.

An Oration delivered February 4th 1774, before the American Philosophical Society, held at Philadelphia, containing an Inquiry into the Natural History of Medicine among the Indians in North America, and a comparative View of their Diseases and Remedies with those of civilized Nations. Together with an Appendix, containing Proofs and Illustrations. By Benjamin Rush, M. D. Professor

professor of Chemistry in the College of Philadelphia.
8vo, Philadelphia.

DR RUSH has prefixed to this treatise a short advertisement, in which he mentions that many facts which he employs are taken from La Hontan's and Charlevoix's histories of Canada; but that he has derived the most material of them from persons who had lived and travelled among the Indians; and that he has been particularly indebted to Mr Edward Hond surgeon to the 18th regiment, who, during several years residence at Fort Pit, directed his inquiries into the customs, diseases, and remedies, of the Indians, with a success which does equal honour to his ingenuity and diligence.

The author begins this oration by announcing the subject of which he proposes to treat, and by stating the difficulty of doing justice to it. He then observes, that civilians have divided nations into savage, barbarous, and civilized. And he is of opinion, that the tribes of Indians who inhabit that part of North America which extends from the 30th to the 60th of North latitude, partake chiefly of the manners of savages. These are the subject of the following oration. Before

attempting to ascertain the number or history of their diseases, he thinks it necessary, *1mo*, To mention a few facts relating to the birth and treatment of their children. *2do*, To speak of their diet. *3dly*, To make a few observations on the customs peculiar to each of the sexes.

The treatment of children among the Indians tends, in our author's opinion, to secure hereditary firmness of constitution. To harden them against changes of temperature, they are plunged every day into cold water. To facilitate their being moved from one place to another, and to preserve their shapes, they are tied to a board, where they lie on their backs, for six, ten, or eighteen months. For the space of two years, some times for a longer period, the chief nourishment of a child is the milk of its mother.

The diet of the Indians is, we are told, of a mixed nature, partly animal, partly vegetable. During the summer-months, they live more upon fish than land-animals. Their vegetables consist of roots and fruits, either mild in themselves, or capable of being rendered so, by the action of fire. Dr Rush is of opinion, that they used no salt in their diet, till they were instructed to do so by the Europeans. Their meat is preserved by
cutting

cutting it into small pieces, and exposing it in summer to the sun, and in winter to the frost. They have no set time for eating; and, after whole days spent in the chase, it is not uncommon for them to spend three or four hours at a time in satisfying their hunger; which, however, is occasioned, not more by the quantity they eat, than by the pains they take in masticating it.

As to the customs peculiar to the sexes, the author observes, respecting the women, that their menses seldom flow till they are eighteen; that they are in general in small quantities, but at regular intervals; and that they seldom marry till they be above twenty. During pregnancy, the women are exempted from labour, and miscarriages very rarely happen among them. Nature is their only midwife. Each woman is delivered in a private cabin, without so much as one of her own sex to attend her, and, in a few days, she returns to her usual employment. Between the eruption and ceasing of the menses, there is hardly a period in which they are not pregnant, or giving suck. The employments of the men are hunting and war. In times of peace and plenty, they are given to indolence, but sometimes shake off these, by the salutary exercises of dancing

dancing and swimming. They seldom marry till they be above thirty ; and it is deemed a mark of heroism to bear the most exquisite pain without complaining. No young man can be admitted to the honours of manhood or war, till he has well acquitted himself in trials of patience and fortitude.

As customs peculiar to the Indians, but common to both sexes, our author mentions painting, and the use of the cold bath. The pigment which they use for the first of these purposes is bear's grease mixed with clay. This, our author thinks, prevents excessive perspiration, lessens the sensibility of the extremities of their nerves, and fortifies them against the action of exhalations. While the cold bath renders them less subject to those diseases which arise from the extremes and vicissitudes of heat and cold.

After this inquiry into the customs of the Indians, our author next proceeds to speak of their diseases. From considering the causes of disease, to which they are exposed, Dr Rush thinks it unnecessary to appeal to facts for determining that fevers constitute the only disease among Indians. These, he observes, are occasioned by the sensible and insensible qualities of the air.

Those

Those which are produced by cold, are of the inflammatory kind, such as pleurifies, peripneumonies, and rheumatisms. Those which are produced by the insensible qualities of the air, or by putrid exhalations, are intermitting, putrid, or inflammatory, according as the exhalations are combined with more or less heat or cold. The small-pox, and the venereal disease, have been communicated to them by the Europeans. But, our author maintains, that they are never subject to the scurvy. He has heard of two or three instances of gout, but it was only among those who had learned the use of rum. From their employments, they are subjected to many accidents; hence arise wounds, fractures, and luxations. Upon the whole, he concludes, that, among Indians, old age, fevers, casualties, and war, are the only natural outlets of human life.

Having thus taken a view of the diseases, he comes next to speak of the remedies of the Indians. These, our author reduces to natural and artificial. To the head of natural remedies, he refers the abstracting from patients all kinds of stimulating aliment, sweating, purging, and vomits. While they prohibit stimulating diet, they give free indulgence in the use of cold water.

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The Indian method of procuring sweating is, by confining the patient in a close tent, over a hole in the earth, in which a red hot stone is placed. A quantity of water being thrown upon the stone, the patient is instantly involved in a cloud of vapour. In this situation, he rushes out, and plunges himself into a river, from whence he retires to bed. This remedy is used, not only to cure fevers, but to remove that uneasiness which arises from fatigue of body. And when it has the desired effect, the patient rises from his bed in twenty-four hours, perfectly recovered from his indisposition.

They excite purging by the fruits of the earth, and the flesh of birds, and other animals living upon particular vegetables. Ipecacuanha is one of the many roots which they employ for the purpose of exciting vomiting.

The artificial remedies of the Indians, according to Dr Rush, are bleeding, caustics, and astringents. They produce a discharge of blood by sharp stones and thorns, and this operation they confine entirely to the parts affected. As a caustic, they place a piece of rotten wood on the affected part, and afterwards set fire to it. The fire gradually consumes the wood, and its ashes
burn

burn a hole in the flesh. As astringents, they employ several vegetables, to which our author thinks they have been led, from the undue efforts of nature in those fevers, which are connected with a diarrhoea and dysentery, together with the hæmorrhages, to which their mode of life exposes them. Dr Rush acknowledges himself uncertain, whether they rely upon astringent or any other vegetables for the cure of the intermitting fever. But, he thinks it probable, that, with them, this disease requires no other remedies than the cold bath, or cold air. In cases of wounds, fractures, and such like accidents, nature alone performs the office of surgeon for them. Their practice for attempting the recovery of drowned people consists in suspending them by the heels, and is, our author thinks, irrational and unsuccessful. In the accounts of their antivenerial medicines, he is of opinion, that some abatement should be made for the love of the marvellous which is apt to creep into the writings of travellers and physicians. Upon inquiry, he finds, that the Indians always assist their medicines in this disease, by a regimen which promotes perspiration. In the treatment of the small pox, it is said, that they plunge themselves into cold water in the beginning
of

of the disorder; and that it generally proves fatal to them. Although much has been said of the Indian antidotes against poisons; yet, our author observes, that, if he were to judge of all of them by those which have fallen into his hands, he would not ascribe much to them.

Having thus finished his inquiry respecting the diseases and remedies of the Indians, he next comes to speak of the diseases of civilized nations, and has no hesitation in pronouncing these to be much more numerous. Respecting their remedies, he observes, that all the products of the vegetable, fossil, and animal kingdom, tortured by mixture and heat into an almost infinite variety of forms, besides numerous operations, as bleeding, setons, issues, and the like, are employed for this purpose. This, he thinks shews, that although physicians be in speculation the servants, yet that, in reality, they are the masters of nature. From these remarks, he is naturally led to take a comparative view of the diseases and remedies of the Indians, with those of civilized nations. He thinks it probable, that the want of success with the former, is always occasioned by want of efficacy in their medicine. While, among civilized nations,

tions, ignorance of the seats of diseases will make us often blush at our prescriptions; and, with all the advantages of the whole circle of sciences, we are still unacquainted with antidotes for their chief distempers. In considering, therefore, whether the blessings of civilization compensate for the disadvantages of which it is productive, he observes, that, if we arm the whole elements against our health, and render every pore of the body an avenue for disease, we pay too high a price for these benefits. He observes, however, that civilization does not always multiply the avenues of death; and that it appears from the bills of mortality of some countries, that fewer in proportion die among civilized than among savage nations. Luxury and effeminacy he considers to be the great causes of disease; and, as America has not advanced far in these, she may yet recal her steps, and give life to those parts which are decayed. For this purpose, he advises that children be educated in a manner agreeable to nature, that the common people be preserved from the effects of intemperance, and that caution be used respecting the manufactures which are admitted; those particularly which admit not of free air, and the exercise

exercise of all the limbs; and he recommends agriculture as the true basis of populousness, national health, and riches.

V.

*Dissertatio Historico-Medica, De Medicina Lap-
num Lulensium, auctore Lars Montin, Gotho-
burgense. 4to, Londini Gothorum.*

THE author of this dissertation introduces his subject with observing, that every nation has in some particulars a regimen and medicine peculiar to itself; and that, from attention to these, even in the most barbarous state, important discoveries have been derived. He proposes, in the present dissertation, to make some remarks on the state of medicine in that part of Lapland which is distinguished by the title of the Lap-mark of Lulah. The inhabitants of this country were long supposed to be in a state of total ignorance respecting medicine. The researches of learned men, however, have of late demonstrated the contrary. Our author proposes, in the
dissertation

dissertation now before us, to add to the information which we have already received on this subject the remarks which he has himself had an opportunity of making; and he imagines, that, while others have treated of the country in general, some advantage may arise from his confining himself to a particular district, which is not without its peculiarities.

Of those branches of medicine which are denominated anatomy and physiology, our author observes, that the inhabitants of this part of Lapland are totally ignorant. Their judgment of health is entirely formed from attending to alacrity of mind, vigour, agility, and strength of body. The regimen which they use for the preservation of health is of the most simple nature, and founded upon no rules. It is founded solely upon long habit, and the experience of one generation transmitted to another. As they inhabit a mountainous part of Lapland, they enjoy a more pure air, and are more healthful, than those who employ the summer in fishing, and live in the woods. Their dress, composed of wool and furs, while it is sufficiently warm, is at the same time very loose, and no where compresses their body. Frequently they shew equal anxiety in defending their face

and hands as other parts of their body ; and they are always more anxious to render their beds warm than soft. With respect to diet, they live in a manner equally parsimonious and healthful. They very rarely use more than one kind of food, and that only twice a day, in the morning and the evening. From that time in the spring, when the rein-deer bring forth their progeny, till the autumn, they live almost entirely upon the milk of these animals. During the rest of the year, they live chiefly on the flesh of bustards, hares, ducks, and other wild animals, but chiefly on that of the rein-deer. They sometimes use also a few vegetables, as the acetosa Laponica, and Angelica lativa. They are unacquainted with every kind of seasoning to their food, except salt, which they use even in great quantities. When they can obtain bread, they are very fond of it, although it is not to be had from their own climate ; but our author asserts that they do not, as some have alleged, use dried fish instead of it. For this simple food, the only drink with which they are provided is that of pure water.

It has been maintained, that they are subject to habitual costiveness. Respecting this discharge, however, our author affirms that there is no singularity.

singularity. He thinks that the quantity of urine which they discharge is in general large in proportion to what they drink. But he observes that it is considerably varied, being least during the summer, when perspiration is free. Concerning the state of the menses with females, he acknowledges that he could obtain no proper information. But he seems to entertain doubts respecting the assertion of Mr Linnaeus, that some of them menstruate during the summer only.

The Laplanders in general, our author observes, are subject to very few diseases. They are almost totally exempted from fevers, eruptive diseases, leprosy, dropy, lues venerea, apoplexy, epilepsy, and the like. And, when these diseases do occur, they are very seldom dangerous. The deaths happening during infancy, however, are very numerous, in so much, that it is computed a half of the nation die before they be one year old. This, our author has little hesitation in ascribing to the excessive cold to which infants are exposed, as it is a practice with them, not only to hold infants naked in their hands, during the cold weather in the spring time, but, even at this age, immediately after taking them out of a warm bath, to plunge them in a river. They

imagine that, by these practices, peculiar strength is added to the constitution ; and, notwithstanding the fatal effects which our author ascribes to it, yet he admits that those who are able to overcome such trials may, by means of them, be rendered stronger.

The diseases to which adults are chiefly subjected, are of the inflammatory and catarrhal kind, and he ascribes them to the drinking large quantities of cold water. They are also sometimes affected with colic, looseness, headach, toothach, and the like. Yet, notwithstanding that their diseases be thus few in number, they are by no means accurate in distinguishing one from another.

After these remarks on the manners and diseases of the Laplanders, our author concludes this treatise with some observations on their remedies. These, he observes, are of equal simplicity with their diet, and may naturally be divided into two classes, those, viz. taken from the vegetable, and those from the animal kingdom. Among the vegetables which they employ, the first place is, he thinks, to be attributed to the angelica fativa, as being the chief medicine which they use. They eat the root and stalk with a view of promoting the action of the stomach, and
remo-

removing colic. It is very common also, both for the men and the women, to chew it in the same manner as tobacco. The leaves and flowers, before they be opened, are boiled in milk, and exhibited in this state to patients labouring under catarrhal affections, internal inflammations, and diarrhoea. Concerning the use of this plant, however, our author remarks that, by mistake, they frequently substitute for it a species of the *Cicuta*, the exhibition of which is attended with very fatal consequences. A second vegetable which they employ in medicine is the *Sonchus Laponicus*; it is used in the same cases as the preceding; but they have seldom recourse to it, unless when the angelica is wanting. Another substance, which enters the medicine of the Laplanders is tobacco. They use the oil of it in cases of spasmodic colic, and the powder for promoting discharge from the nostrils, and relieving headaches. Among the more violent medicines which they employ, may be ranked the berries of the *Laureola*; two, or, at most, three, of these they swallow entire, in cases of inflammation, or suppuration of the oesophagus. A medicine no less dangerous which they use is the *Nux Vomica*. The half of one of them they exhibit in water

or spirits to those affected with colic. For the same affection they sometimes also use the following cure : They boil a quantity of the bark of the willow in water for the space of some hours; of this decoction the patient takes two pounds, and, afterwards, a considerable quantity of common salt. For the cure of dysentery, they pour a quantity of cold water on the ashes of the birch, and, after allowing it to stand for a day and a night, they give to patients about half a pound of the filtrated liquor every third hour. From the birch, also, they prepare their moxa, which is their great panacea for the cure of all pains. One, two, or three cones of this, are successively burnt upon the affected part. Besides these medicines, the plaster which they apply against all wounds and ulcers, is likewise prepared from the tender bark of the birch. To excoriated feet, they apply a species of the lichen, which either cures their sores, or, at least, affords considerable relief from drying them. Our author, however, refuses that they ever use the lichen internally, as some have alledged.

Among the medicines which they take from the animal kingdom, that which is in most frequent use is the gall of the bear, which they employ

ploy for anointing pained joints. They hold in high estimation castor, in its liquid state, against all affections of the intestines ; and they employ internally the fat of the tail of the beaver for promoting suppuration. They apply oil obtained from the cheese of the rein-deer held at the fire, against external inflammations of the breasts, and different excoriations. The gall of the hawk or swan is their remedy against diseases of the eyes. The yolk of eggs taken from the bodies of birds before they have obtained a shell, are also a frequent remedy with them against different affections. Viper's grease rubbed upon the breast is the cure which they employ against internal inflammations of that part ; and the skin of the viper is celebrated as a purgative, about the size of a nail, in the form of a powder, being taken in water. Concerning different operations in surgery, which they have been said to perform, as bleeding, cupping, scarification of the palpebrae, and of the uvula, our author could learn nothing. He makes mention, therefore, of two only ; the careful extraction of the gordius when any part of this insect appears through the skin, and the forcible drawing of the hair for the cure of headach.

VI.

Medical Memoirs of the General Dispensary in London, for part of the years 1773 and 1774. By John Coakley Lettsom, M. D. F. R. and A. S. S. and Physician to the General Dispensary. 8vo, London.

THE work before us is divided into several sections. In the first of these, the author gives some observations on fevers with symptoms of putrescency. These he supposes to be produced from a determinate specific source of human contagion. He declines the consideration, whether miasmata, a spontaneous putrescency of the bile, or despondency of mind may also produce them. Respecting the cure, he observes, that delirium, dyspnoea, with the pulse even at 130 strokes in the minute, provided it be distinct, are rendered as little tremendous as the common symptoms of an intermittent, by a method of treatment neither tedious nor unpleasant. The remedies which he recommends, besides good liquors, may
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be reduced to a very narrow compass. They are Peruvian bark and cold air. He adds, that it may appear necessary to evacuate putrid effusions accumulated in the stomach and bowels, probably by an antimonial vomit; which, besides its operation as an emetic, should also be given in such a manner, or with such additions, as may procure as many stools as the patient can easily bear. But, where a patient has been previously much weakened, he thinks, that evacuation is not always necessary, or even safe; and, he observes, that the Peruvian bark itself generally proves laxative, either alone, or when joined with a mineral acid.

Immediately after evacuations, when they are necessary, he commences the exhibition of the Peruvian bark, without waiting either for remissions or intermissions. And he maintains, that a dry dark coloured tongue, a parched skin, urine without sediment, delirium, dyspnoea, and continued fever, which have deterred physicians from using the Peruvian bark, are the very reasons for which he gives it thus early. He finds, that, in such circumstances, it is so far from having any bad effect, that it promotes a mild perspiration, produces a sediment in the urine, diminish-

es the quickness of the pulse, removes delirium, and effectually relieves the breathing. These effects it produces by obviating the cause or causes which produce the fever.

Our author thinks, that, in a fever with urgent symptoms of putrefaction, two ounces of the Peruvian bark in a day is the least quantity that can be depended on. He finds, however, that a strong decoction sits more easily on a patient's stomach, than the bark in substance; and that, by this means, it proves more effectual. His common formula is, to order three ounces of the powder to be boiled in a quart of water to ten ounces. This decoction is to be run through a course cloth, which will allow the fine powder of the bark to escape, and the whole of it is to be taken in 24 hours. In some cases, he adds a dram of the elixir of vitriol, which, he thinks, proves laxative, prevents fermentation, and is probably antiseptic. He next observes, that it should be a general caution, that the patient have at least one stool in the space of 24 hours.

As to the second remedy, cold air, Dr Lettsom remarks, that it is with him a general injunction to keep the patient out of bed, as Dr Dimisdale and others recommend in the small pox; and that,
where

where it is not convenient to take them abroad, he orders the windows and doors of the chamber to be kept open throughout the day ; the patient being thus exposed to a current of air. In confirmation of the utility of the practice here proposed, the author relates fifty-one cases of putrid fevers in which it was attended with remarkable success. From several of these, he also deduces this conclusion, that children may even suck their mothers under the disease, without contracting the infection.

The second section of this book contains speculations on opium, with cases and reflections. Here Dr Lettsom adopts the idea of Dr Cullen, that this medicine possesses a combination of stimulant and sedative powers. Upon this supposition, he observes, that, as a sedative, it may be used wherever there is an excess of excitement in the system, as relating either to sensation or action. As it relates to sensation, it is to be used in cases of pain, not the effect of increased impetus in the sanguiferous system, or of inflammation. He observes, however, that if the cause of the pain appear permanent, by increasing irritability, it may augment the complaint it was given to remove. As it relates to action, it may be used
when

when the excited action is in the sensorium, as in mania, provided the increased impetus of the blood, and determination to the brain be previously removed, by evacuation or diet. It may also be employed when the excitement is in the moving fibres, whether of proper muscles or excretories, as in convulsions, spasm, and increased excretions. It is, however, improper in these cases, when fever, and increased action of the vessels are present, or when there is any permanent stimulus.

As a stimulant, our author maintains, that it is indicated where-ever a stimulus is wanted, and where there is at the same time a small degree of excitement in the system; and that it is also indicated when we want to excite the sanguiferous system on the surface in producing sweat. To obtain these effects, he advises, that it be given in small doses only. He thinks, however, that this medicine is improper in low fevers, on account of the atonia which succeeds its exhibition, especially as wine is a more certain and permanent stimulus. He concludes this section, by relating some cases in which opium was used.

The third section treats of that species of leprosy denominated by Sauvage ichtiosis, from
its

its resemblance to the scales of fish. In this obstinate disease, Dr Lettsom has found the remedies most commonly recommended in cutaneous eruptions to be ineffectual. But he has observed very good effects from a decoction of the inner bark of the elm-tree. The use of this medicine he confirms by three cases.

The fourth section is a defence of inoculation. In this, Dr Lettsom endeavours to obviate the great argument of its adversaries, viz. that it appears from the London bills of mortality that more persons have died of the small-pox since the introduction of inoculation than before that period, which they ascribe to the disease being more universally extended and propagated. Our author, however, asserts, that the increased number of deaths is not owing to the inoculation, but to a less reserved intercourse between the infected persons, and the community at large, which has lately taken place during the treatment of the natural small-pox. He contends, that, even less caution is then observed, than under inoculation, where public and private hospitals are erected, for the reception of the inoculated patients; most of these being situated at a distance from the metropolis. He adds, too, that the great number
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ber of persons who annually quit the country for a town-residence, must more frequently fall the victims of natural small-pox than of inoculation.

In the fifth section, our author considers the method of treating the confluent small-pox. In this disease, he has tried, without effect, the usual method of relief by exposure to air, Peruvian bark, and antiseptics. He has now recourse, with success, to calomel, and strong mercurial unctions. To these, however, he frequently adds different laxatives, acids, the Peruvian bark, and anodynes. He even thinks that mercury possesses the same antidotal quality to the variolous virus as it appears to do to the venereal; and he is confirmed in this opinion, from observing that it abates the inflammation of the arms after inoculation, and that the pustules where the ointment is applied never suppurate, but soon die away.

The sixth section contains remarks on the whooping cough. Here Dr Lettsom particularly considers the remedies generally used to obviate this disease, and then adds several cases in confirmation of his own practice. As to bleeding, he does not think it generally applicable. But he allows that there are instances where children of a considerable

considerable degree of strength and health have been attacked with the whooping cough, which has been early accompanied with fever, haemorrhagy, contraction of the extremities, pains in the breast, hard pulse, and bloated face, indicating congestions in the vessels. In these circumstances, he admits that no reasonable objection can be urged against venesection, proportioned to the strength of the patient, and the violence of the symptoms. To confirm the propriety of blood-letting in particular cases, he gives an account of several dissections, in which inflammations and suppurations were discovered. Vomiting he recommends, as it seems to be the natural cure ; and, for this purpose, he prefers antimonials given in proportion to the quantity of the phlegm or mucus with which the patient seems to be loaded, and as the strength of the system will bear them. Blisters are, he thinks, indicated by the same symptoms which require bleeding. As to the Peruvian bark, he observes, that experience has evinced its being inefficacious in numerous instances. But he maintains, that, when it is united with the pargoric elixir, and tincture of cantharides, it never fails in producing a cure of this alarming disease, if it be early exhibited, and proper evacuations, especially

especially by vomiting and purging, have been procured. For this practice, he acknowledges himself to be indebted to Mr Sutcliff an apothecary in the neighbourhood of Settle in Yorkshire. With regard to the use of hemlock, he observes, that, notwithstanding the avidity with which it was at first prescribed, experience has proved its inutility ; and that there are even no instances related by Dr Butter himself, the result of which was favourable to its reputation.

The seventh section contains miscellaneous cases. The four first are instances of the good effects of hemlock in cancerous and schirrous complaints. The fifth is a case of obstinate headach, cured also by powder of hemlock. The sixth is a tumour treated with saponaceous liniment. The seventh is an obstinate palpitation of the heart, cured by white vitriol. The eighth is an instance of salivation brought on by watch gilding. The ninth, of tremors from the same cause. The tenth and eleventh are cases of abscesses from infection, by means of wounds. In the two next articles, we have instances of the inefficacy of fixed air in gangrene, dysentery, and phthisis pulmonalis. The fourteenth article contains some dissections of people who had died of pulmonary

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consumptions. And, in the fifteenth, we have some account of a deaf person, with whom it is possible to converse with great facility by the motion of the lips.

In the eighth section of these memoirs, our author has given tables of the admissions, diseases, and deaths, at the general dispensary, for the course of one year. And he concludes the work with a view of the formulae which are employed there.

VOL. III.

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SECT.

S E C T. II.

Medical Observations.

I.

*The History of a Case of the Rabies Canina; by the
late Mr Archibald Bathie Surgeon at Auchtermuchty,
Fifeshire. Communicated to Dr Hope.*

JAMES PATON, about fourteen years of age, servant to a farmer in the parish of Strathmiglo in the county of Fife, was, on the 18th of November 1774, bit by a strange dog when he was herding in the field.

He was then in company with two of his fellow servants, who observed a small sheep-dog make up to the unfortunate lad, using the ordinary demonstrations of tameness and affection, peculi-

ar to that species of animal in a state of health. Far from exhibiting any appearance of madness, he deceived the boy by fawning upon him, and, without reluctance, eat bread, which he threw down to him. One of the men desired the lad to tie a cord about the dog's neck, to secure him from running away, whilst the other, suspicious of hazard, by observing his eye very much inflamed and dull, called out to the boy to let him alone; but he was not attentive to this caution, and attempted to fasten the cord round the neck of the dog, in which act the dog turned, and bit the back of his right hand between the small and ring-fingers, leaving behind the marks of two of his teeth, which bled freely. This dog instantly attacked another one belonging to the boy, which stood hard by him, and then set out to the westward. About four or five days after, he was overtaken in the parish of Orwell, and killed as a mad dog, by people who had not heard of this accident.

The young man's hand swelled considerably by the next day, and increased much the day following. At that time, the swelling, attended with an inconsiderable pain from the small wounds upwards, reached to the shoulder. In this way, he

came to me the third day after he had been bitten, the sores being filled up, and scabbed over. I was then informed only that the boy was bit by a dog which he had never seen before, and not until he had given provocation, by tying him ; that the dog eat bread, and appeared tractable at first, none of the worst circumstances being related till afterwards. The fear which the boy or his friends was under, arose from the instant swelling of the arm after the bite, which might also have happened from wounds of the same depth on tendinous parts, from any other cause. To these favourable accounts, together with no rumour of madness prevailing among dogs in the country, it was judged most prudent not to alarm the boy with dreadful apprehensions of danger upon an uncertain presumption. Or, even had it been supposed that the dog was mad, the poison, by this time, was certainly too far advanced in the circulation to be extracted by opening the wounds, or overcome by medicine, without a tedious or troublesome process, which would not have been complied with, and which country-people are not liable to fall in with, till the last extremity.

It was therefore thought necessary only, to purge him with calomel, which was done four times, three days intervening betwixt each dose. The parts affected were ordered to be fomented with emollient decoction, and the sores to be kept open with basilicon and precipitate, after removing the scabs. The swelling soon yielded to these means, and the little sores would not, by the applications made to them, be prevented from closing in a short time. I heard no more about the patient for near three months, when I was called to visit him, after he had laboured three days under the symptoms of rabies canina.

I was informed that, during the period betwixt the bite and the 9th day of February 1775, on which day the poison began to manifest itself, he continued in his ordinary state of health. He was observed to be rather melancholy and pensive on some occasions, and shunned his usual diversions. This was imagined to be owing to the behaviour of his companions, who took a foolish satisfaction in teasing the poor boy with stories of people dying in various horrid shapes who had been bit by dogs.

On Thursday the 9th February 1775, about eleven weeks after he was bit, he was attacked

with universal lassitude, sickness, loathing of food, and a slight headach. These symptoms were, however, so little severe, that he found means to conceal them pretty well, and went about his day's employment with some difficulty.

10th, He still hoped to overcome his complaints, and, as if suspicious of the real cause, he had not resolution to mention them to any body. He went, therefore, to drive the plough, and made a shift to follow the cattle to the field, but with much labour and fatigue. In spite of the uneasiness he laboured under, he drove a round or two, but so unactively, that his master reprehended him smartly for his laziness, not knowing he ailed any thing. The boy then sat down, and complained of a pain between the shoulder and elbow of his right arm, a disorder of his throat, and a headach. When he got home, he attempted to drink, but could not swallow liquid, from something in his throat, which interrupted its passage. His disappointment herein only created in him a stronger inclination to gratify his thirst with a draught of cold water; he seemed melancholy at his ill-success, often saying, he would be well again if he could swallow a drink.

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He walked alone that evening to the house of his parents, which is a mile from the place of his master's residence. This journey he performed with difficulty, being exceedingly fatigued and faintish when he got home. He was soon after seized with shivering, and complained greatly of the pain of his arm and throat. Being usually fond of porridge, his mother made a few to warm him, of which he took four spoonfuls with difficulty, and then hung his head over the dish, regretting as it were his inability to eat more. His arm now was chiefly the object of complaint, unless in the act of deglutition, when the contraction of the gullet overcame all his other feelings. It may be worth while to remark, that his mother, from his complaining so much of the pain in the arm, examined it, and observed that, between the shoulder-top, and down towards the elbow, the skin was of a yellowish hue, having both the appearance and feel of that of a dead person. He got very little rest that night, his pains and anxiety still continuing, with an incapacity to swallow liquids. He was constantly shifting from side to side, being in every posture remarkably uneasy, and often attempting to drink, without effect. In the same condition he continued all

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Saturday the 11th, rather worse than better ; and as, from repeated trials, he found it impossible to take a draught of any liquid out of a dish, he asked for a tea-spoon, endeavouring to satisfy his appetite from that small vehicle. This experiment did not at all succeed to his wish ; a few drops now and then found a passage, which only excited the more his desire to swallow larger quantities ; for, as soon as the liquid he sipped out of the tea-spoon reached his fauces, it seemed at the peril of his life, he being, at each effort to swallow, threatened with instant suffocation.

Labouring under such dread and apprehension of danger from drinking, he was thereby also deterred from trying to eat, suspecting the entrance to his stomach to be entirely closed. In this desperate situation he continued all Saturday. His case would have been still more deplorable, if both the boy and his friends had not still retained hopes that the disorder of his throat was a common one, and not a symptom of rabies.

On the evening of Saturday, after a great deal of uneasiness from the pain of his arm, throat, and oppression at his stomach, he was on a sudden attacked with a feverish paroxysm, or universal coldness and shivering, which was succeeded by
a hot

a hot fit and sweating. When this was completed, he felt no particular pain, that of his arm and throat being diffused over all his body. Then falling asleep, he rested for two hours.

About the middle of the night, he was seized with delirium, and struck his mother who waited by him, imagining she was some other person intending to do him mischief. But, when she reasoned with him calmly, he became sensible of his mistake, and expressed sorrow for his behaviour. After this feverish attack, he generally seemed unconcerned, taking little or no notice of any person who came into the chamber, unless when he was spoken to. He had a timid look, was easily alarmed with noise, or the presentation of luminous objects. He also had a *subfultus tendinum*, and raved much; but, when asked questions relative to his health, he immediately appeared awake and collected, and gave distinct and sensible answers, returning soon into a reverie, as before, when permitted to be undisturbed. Even to the conclusion of the scene, when he was carried to the summit of frenzy, as was the case before he expired, he had the power of summoning himself, and rationally answering questions all along with a distinct voice, such as maniacs express themselves

selves in, but more or less impetuously, according to the degree of fury with which he was agitated when spoken to. At the appearance of a lighted candle, or a fire, he shrunk back in terror, calling out to remove them from his sight. And when the bed-cloaths were adjusted upon him, he always complained of being much hurt.

On Sunday the 12th I saw him for the first time, and learned all the circumstances of this affecting case from his friends, who were still willing to believe, that his disease was a fever and sore throat of a particular sort, though they were much impressed with fears from the bite, but shocked to express them. I found him lying on his back rolling his eyes without intermission; and he did not stir out of that position until I spoke to him. When I asked how he did, he turned himself rashly, having an anxious and timid look, with starting of the muscles of his face. He then called for a vessel, sat up on his knees and voided urine in a small quantity, of a greenish colour, turning whitish when cold. Since the fever had begun, his inclination to discharge urine was frequent, and what was discharged, was always in colour and quantity as above noticed. There was a considerable heat and moisture upon his skin, with

with a very white thin furr on his tongue, and he had a strong inclination to drink. His pulse was full, and beat about 125 or 130 in a minute. He complained of a pain of his head, and of oppression or heat at his stomach, and that his throat was sore, and grew strait when he offered to drink. He had also an inclination to vomit, but was affraid to do so for the obstruction in his throat. With all these symptoms of fever, and hydrophobia, the boy spoke to me sensibly, and in his ordinary tone of voice, as if his throat had been quite well. Two bluish marks remained where he had been bit; but the part was heal.

I propos'd to bleed him, at which he started up and held out his arm, adding, that he would do any thing I directed for his recovery. But, lest his resolution should fail, or he might be troublesome during the operation, I made him be held by an attendant, and then took away about a pound of blood without any disturbance. There was nothing remarkable in the appearance of the blood, further, than that it was rather thick, long of separating, the serum tending to viscosity, and being greenish. The bed being in a dark corner, a candle was brought to shew light; it produced ter-

ror in the patient, and made him so unhappy, that I ventured to perform the operation without it.

When he was bled, I wanted to see the effects from his swallowing liquid, and gave him a dish with water wherein had been boiled a crumb of bread. Although he consented readily to make the experiment, yet he took the dish out of my hand with some reluctance and fear, and starting in his face. He held it between his teeth for some time hesitating, whether he might venture to admit any of its contents into his mouth or not. At last he admitted some ; but, as soon as it reached the fauces, he was thrown into a convulsion, let go the dish, and starting to his feet, he grasped his throat with both his hands, while his face was much flushed, and he continued as it were for a minute in a state of suffocation, when the spasm began to yield, and wore off gradually. He then lay down again, the spasm of the gullet being succeeded by a quick involuntary action of the muscles of his face, accompanied too with a convulsive motion of his whole chest, similar to that in sobbing, but in quicker paroxysms, with a peculiar noise from the throat. In spite of this fruitless attempt to swallow liquid, his inclination to gratify

tify the insatiable desire for it, led him to try his accustomed experiment of drinking or gulping out of a tea spoon, whenever the effects of his last attempt wore over. He seemed to swallow a few drops in this manner with very great trouble and pain of his throat, starting or drawing back of the muscles of his face, and sobbing, as happened from his former endeavours. Upon the cessation of the muscular actions, I desired him to make another trial of swallowing a drink, but I observed, that even the idea of this operation, so recent in his mind, and severe in its consequences, produced spasmodical affections upon the organs of deglutition, and other parts as before. The same symptoms were pretty remarkable when a drink was presented to him, going off again very soon when the object was removed from his sight, or the conversation changed.

As he had not eat any thing since Friday night, imagining it as impossible for him to swallow solids as liquids, I got him advised to eat a bit of bread, which he at first refused, saying, its passage at the throat would be interrupted, as had hitherto been the case with drink. He chewed a morsel of dry bread, which with difficulty found its way over, and finding it practicable, he eat another

nother mouthful or two. Since he succeeded so well in swallowing dry bread, I gave him a piece soaked in water, this he rolled about in his mouth, and then spat it out, saying he could eat no more, and laid himself down for rest.

To try whether the water in which the bread was soaked could be the cause of his refusal, I proposed another sop in the same manner, which he swallowed with severe straining, and muscular action, as before. With persuasion he took another mouthful, which had the same effect, and then absolutely refused to take any more. Whilst I was preparing the second spoonful, his mother asked if I was mixing water in his bread, which the boy took notice of with change of colour; and with a sort of horror refused to take it, till I told him it was a medicine to do him service. After this task was concluded, he said that he felt himself a great deal easier, and better by the cold bread, which relieved his breast; and he appeared contented with what he had done.

The hydrophobia being now so strong, that although a medicine could have been contrived, capable either of destroying or expelling the poison, it could not possibly be introduced into the system; nothing perhaps remained but to caution his attendants of their danger; and to recommend

it

it to them to be watchful over his motions, on their own account. But his friends, anxious for relief, wished something still to be tried, although there was no prospect of success. I gave him therefore a grain of Tartar Emetic, in one of the spoonfuls of soaked bread, with a view to ease the oppression at his breast, by assisting a propensity which he had to throw up; and as nature seemed to favour a sweat, from the moisture over his skin, if the emetic tartar did not operate upwards or downwards, I thought it might promote the determination to the surface with safety. I also ordered emollient injections to be given every hour, and, to remove the spasm, a blister was applied to his throat. The person appointed to administer the glysters declined that office through fear, so that nothing was done, after I left him, for his relief, except offering him now and then a bit of bread, which he sometimes accepted of. About an hour after he got the tartar emetic, he vomited a great quantity of green viscid matter, and, soon after that, had a loose stool. But, instead of relief, he every minute increased in fury and madness, fancying, in his frenzy, that his friends and attendants were all conspiring against his life. At last, he was exhausted by strong muscular

muscular exertions, in which he could scarcely be held in bed by three or four men. He to the last knew his friends when they spoke to him, raving and tossing about when he had answered them. About eight o'clock in the evening, he turned suddenly quiet and motionless; he lay in this condition for little more than half an hour, and then expired without a struggle.

When an uncle of his was offering him a bit of bread, a little before he grew quiet, he made a snatch and bit his thumb; but the man had luckily the prudence and resolution to cut out the part that was bit, and so remains free from any apprehension of hazard.

II.

The history of a case of Locked Jaw, with uncommon symptoms, which terminated favourably, by Dr James Moodie, Physician at Newry in Ireland.

A Young lady, of a pretty full habit of body, and florid complexion, having, on the 11th of November 1773, gone to bed in her usual health, found, when she awoke next morning, a stiff-

a stiffness and pain extending from the ear down the side of her neck, and over the shoulder, towards the base of the scapula, which prevented her from turning round her head, or raising up her arm. It rather increased that day and the next; sometimes shooting through her breast, and affecting her breathing like a stitch. At this time she had ten ounces of blood drawn from the arm, but found no relief from it. The following day, being the 14th, she continued as usual, till the evening; when, after having drunk a cup of tea, sitting up in bed, she was seized with a compleat locked jaw. Those around her finding her to suddenly become speechless, thought her dying, and sent for me.

When I arrived about an hour after, I received the above account from her attendants. She was quite sensible, moaned much, put her hand up to her lower jaw, and strove to pull it down. Her pulse was slow, full, and regular. The case was then clear. I attempted, with a small spatula, to separate the teeth; but, after using considerable force, I failed. The masseter muscles felt hard, and painful. I ordered a blister to be immediately applied along the pained part of the shoulder and neck; and the stiffened masseter

muscles, with the neighbouring parts, to be well rubbed with aether, and a fourth part of Thebaic tincture. The blister had a plentiful discharge; but the aether could not be procured, and therefore she was not rubbed. She could suck in no liquid through her teeth that night, nor the next day, the 15th, till the evening, when she was put into a warm bath, where she continued half an hour; at which time she sucked in a good deal of weak tea. She was then rubbed dry, and put into warm blankets, where she sweated profusely for two hours; during which time she continued to take in a little drink. She slept a good deal during night, but was very restless and uneasy in her sleep. As she could now suck in any fluid, I ordered her to get twenty drops of Thebaic tincture every three hours; and, having made no urine for thirty-six hours, and being much pained and swelled in the region of the bladder, I ordered fomentations with flannels out of warm water to be applied, and a clyster of chicken-broath to be given. She passed a very little clear urine after this, but immediately rejected the glyster. I ordered the warm bath to be repeated again this evening, the sweating to be encouraged as before; and the glyster to be tried immediately after

after the warm bath. When I visited her the next morning, the 17th, I found that she had slept a good deal in the night; that she had passed a little urine with much pain; and that the swelling in the region of the bladder continued; that she had sweated freely after the warm bath; that she had rejected the glyster at night, but received one in the morning; and that the Thebaic tincture had been given regularly every three hours, except once, while she was sleeping. Besides this, the aether being procured, she had been well rubbed with it both at night and in the morning. I ordered her to be well rubbed a third time with it; and, immediately after, I made an attempt to open her jaws, and, with much less force than I had used in three or four former trials, I separated them. They flew suddenly open, and came together again with some violence. The spatula was not withdrawn, and she kept it between her teeth with her own hand, and could with it depress the lower jaw half an inch. As she could then speak, she informed us, that the pain and stiffness in the neck continued, and that she had been affected with a severe pain over the fore part of her head, since the time that her jaw became locked. She complained of being sick, and faint. Her pulse, as

on the former days, was full, flow, and regular, though once or twice it was found rather quick and small, but continued so for a very short time only. She got for food panada, strong chicken-broath, and beef-tea. The Thebaic tincture was continued, and the warm bath and glyster ordered to be repeated morning and evening. On the 18th, I found she had slept a good deal the preceeding night, had sweated freely after the bath, and that her jaws still continued a little open. The glysters had procured a stool after each; but her urine still continued in small quantity. The Thebaic tincture, warm bath, and glysters, were ordered to be repeated as before. On the 19th, she complained more of her head, had slept little in the night, and threw up whatever drink she took; and she had a constant nausea. She had sweated, as usual, after the bath, and had a stool after the glyster, and made rather more urine. Her jaws were still very stiff. I ordered her three grains of opium in two pills, to be taken at bedtime, and the same quantity in the morning, and two spoonfuls every two hours of the following mixture:

R. Mosch.

℞. Mosch. puriss. Scrupulum, Sacch. Albissim.
 Dr. duas ; conterantur simul, sensim affundendo
 mixturam sequentem, Sal. absinth. (cum succ.
 limon. saturat.) sesquidrachmam, aq. menth.
 vulg. simp. aq. cinnam. simp. ana unc. tres,
 tinct. Thebaic. gutt. sexaginta.

At my visit on the 20th, I found that she had vomited none since she took the second dose of the mixture, but rested none in the night. Her pain was very violent over the whole head. She was very thirsty, and could open her jaws more than hitherto, but with much pain. She had a stool by a glyster, and sweated after the bath as usual. The mixture, warm bath, and opium, in the dose of three grains night and morning, were ordered to be continued as before.

Next day I was informed she slept none in the night, and that her headach was very violent. The vomiting had returned, and still continued. She threw up the mixture always, except once, when in the warm bath. Suspecting that the opium occasioned the watchfulness, I ordered it to be omitted, especially as the jaws were pretty free, though very painful, when moved. She remarked

to me, that, every time, during the night, when a candle came in her sight, it appeared double to her. Other objects, however, did not always appear so, though sometimes her eyes were remarkably large and protruded; and it was always observable, that the pupils of them were uncommonly large, but not more so now than formerly.

I ordered the warm bath to be continued, and also the saline mixture with musk.

On the 22d, I found that she had slept none in the night, and that her headach was increased to perfect distraction. She had taken no opium for twenty-four hours, except what was in the saline mixture. Her vomiting continued when she took any drink, and at all times a nausea. She had a natural stool in the night, for the first time since she grew ill, and her urine was in greater quantity, and discharged with less pain. She sweated after the bath most profusely for two hours. I ordered her a vomit of ipecacuanha to be taken in the evening, and desired her to omit the bath, but to continue the saline mixture with musk.

The vomit operated well, but neither relieved her head, nor abated the nausea and vomiting.

She

She slept none in the night. She did not observe the double vision for twenty-four hours. I then directed that her head should be shaved, and a large blister applied over the whole of it.

The blister was applied at three o'clock on the evening of the 24th, and all the symptoms continued, as usual, till about twelve hours after, when it was observed to have discharged a great quantity. It was taken off, wiped, and applied again with clean bandages ; after which she slept very composedly for two or three hours, and, when she awoke, found the pain of her head much abated. At two o'clock, when I saw her, having slept a little more in the morning, she found herself still better, the nausea gone, and a thirst, which she complained of, abated. Her menses appeared that evening, which was the time when they were expected, as she had in that respect been very regular for two years before. I ordered the blister to be kept on for some time longer ; and, for a strangury, which was troublesome, a turpentine glyster. During the course of the day, she took a little food.

On the 25th, I found that she had slept a good deal during the preceeding night, and that the

pain in her head was much lessened, without return of the nausea. Her strangury was gone. She had a natural stool, and her pulse, as at every other time of the disease, was remarkably full, slow, and regular, with very little variation. A great discharge continued from the blister. From that time, till the first of December, she continued to grow better ; when the pain of her head being gone, the blister was removed, and the part allowed to heal. Her appetite returned very slowly. Her jaws, though she could open them pretty well, were so sore, that she could chew no solid food.

Soon after this, she began to walk about the house, and continued gradually to recover, though the soreness of her jaws, upon motion, remained for a considerable time. Since this severe illness, she has remained a twelve-month without any return of these complaints, and enjoyed tolerable health.

III.

The History of an anomalous tumour on the eye-brow of a Child of fifteen months old, extirpated by Mr James Hill, Surgeon in Dumfries.

ON the fifteenth of August 1769, a girl fifteen months old, was brought to me for advice respecting a tumour on her eye-brow. The mother informed me, that it first appeared in the shape of a red pimple no larger than a pin's head, when the child was about two months old. And that it increased as she grew. But another woman, who also attended the child, said it was there when she was born. When I saw this tumour, it was of an oblong shape, of a considerable size, and pressed so much upon the eye-lid as nearly to shut it.

The mother was very anxious to have it removed, and urged, that if it were allowed to proceed any further, it would render her child altogether blind, or perhaps, produce even worse consequences. In short, she was so importunate, that

that she prevailed on me to attempt extirpating it, though with a good deal of reluctance.

On the top of the tumour, there was a red part like a strawberry, but not so rough. From this, as a center, a great many blood-vessels shot out in all directions resembling a star. This occasioned redness for some distance round; but the rest of the tumour was not so much discoloured. It was moveable like some of the encysted tumours, and felt much like one of the fatty kind; from which circumstances, I was somewhat encouraged to attempt the removal of it.

A thread was run through it, by which I pulled it upwards. But the first touch of the instrument shewed me, that it was a bundle of blood-vessels, which sprung so briskly, that I was obliged to hurry it off, and found great difficulty in stemming the stream. Pledgets dipt in tincture of myrrh were applied to it, and frequently renewed. This was the only method I could take to stop the bleeding; for the discharge was so quick as rendered it impossible for me to tie the vessels. Besides this, the bottom of the tumour was so exactly on the edge of the orbit, that the smallest motion turned the dressings either too far up, or pressed them down on the eye-ball; so that frequently,

quently, when I thought all secure, I had the mortification to see the blood burst out at one side or another. My aim, however, was at last accomplished by long and steady compression.

No means were used to remove the dressings; but they came off in about forty hours. I had then an opportunity of viewing circumstances more deliberately, and was sorry to see, that, though the incision was begun within a straw-breadth of the eye-lash, yet part of the tumour which was within the socket was left behind. In this, the large red arteries and blue veins made a very singular appearance, resembling net-work, in a kind of whitish transparent jelly. As I durst not attempt any more cutting, two threads of cotton were drawn in by a crooked needle, below the bottom of that part of the tumour which remained; and were left as a seton-cord to consume it gradually. Red precipitate and burnt alum were tried separately with the same view. But they gave so much pain, that the infant could bear neither of them. The cord, however, in a few weeks, cut its way through, and destroyed the remainder of the tumour so fully, that slight dressings soon completed the cure.

IV. *The*

IV.

The History of a case in which violent Convulsions were induced by Surprise and Grief. By Mr John Smith, Surgeon in Uppingham, Rutlandshire.

ON the 18th of January 1772, Mr F—, a man aged forty, of a remarkably fat gross habit of body, one of the domestics of the right Honourable Lord Carbery, upon going into the room of a fellow servant whom he had left in his usual health about twenty minutes before, and finding him dead, gave three or four loud screams, which brought the other people of the house to his assistance. They found him affected with universal coldness and shivering, and instantly carried him from the apartment of the dead person to his own. Before his cloaths could be got off, so that he might be put to bed, he was seized with strong convulsions, which continued for a quarter of an hour, during all which time, four men were hardly able to hold him. He
foamed

foamed at the mouth, and had a copious discharge of saliva. His tongue gradually swelled to such a size, that it was impossible to introduce a teaspoon into his mouth; and, at the same time, it became of a dark black colour. His face and neck were also much swelled. Upon the first alarm, I was sent for. But, before I saw him, he was put to bed, and had been bled to about eight ounces. Attempts had also been made to make him swallow some volatile spirits and white wine whey; but none had been got down. When I came, I found his tongue much swelled, of a black colour, and hanging from his mouth. He could speak none. His pulse was full, and pretty regular. His eyes were shut, and upon lifting up the eye-lids, the vessels appeared to be remarkably full. There was a great degree of palpitation at his heart, and a kind of convulsive motion all over his abdomen.

In this situation, I had him raised up in bed, and the doors and windows opened. But, about ten minutes after my arrival, he was seized with a strong convulsion fit, during which four or five people could scarcely keep him in bed. After it had somewhat subsided, getting his hand stretched out by an assistant upon the bed, I opened the
vena

vena cephalica policis, and took away about sixteen ounces of blood, by a large orifice. Even during the operation, he breathed more easily, and his tongue diminished in size. I then put two or three spoonfuls of white-wine whey, with the addition of a tea-spoonful of spiritus volatilis foetidus, into a tin instrument, such as is used in forcing medicines down the throats of children. I pressed down his tongue with a tea-spoon, and then introduced into his mouth the pipe of the tin instrument, and poured its contents down his throat. Immediately after this, I injected a strong cathartic glyster, which procured him three stools in four hours. But all of them came away without his being in any degree sensible of them. During these four hours, he was continually convulsed in some one part of his body or other. I then applied a blister between his shoulders, and ordered his assistants to get down as much of the white-wine whey as possible, in the manner I had done before. About four o'clock in the afternoon, one of his attendants came to me, and told me that he was dying in one of his fits. When I came to him, he had indeed every symptom that would seem to indicate approaching death. As the room was as cool and airy as possible, I made
him

him be taken out of bed, wrapped in blankets, and seated in a chair opposite to the window. I then removed the bandage from his wrist, and took away about twelve ounces more blood. I afterwards poured down some more whey, with the spiritus volatilis foetidus, and I applied two blisters to the calves of his legs.

About ten o'clock at night, I found him quiet, rather inclining to sleep, his pulse calm and depressed, and his tongue within his mouth, though still swelled and black. I then asked him where his complaint was, upon which he laid his hand upon his stomach. On this, I gave him three grains of emetic tartar in a cupful of chamomile-tea, which he swallowed voluntarily. In half an hour, it excited vomiting, and he discharged a considerable quantity of phlegm and undigested victuals. After these appearances, I ordered his assistants to give him a tea-cupful of the infusion of chamomile, as often as he could take it, till his stomach was unloaded. About twelve at night, I went to his room, and found him asleep. His attendants told me, that they had given him two cupfuls of chamomile-tea, which he had not vomited, but that he had had two stools; the last while he was asleep; and that they found
it

it impossible to keep him awake. I staid by him till he awaked; he started, but no other symptom of fit appeared. I then left him, with orders that, upon any other symptom of fit, the whey, with the drops, should be repeated.

The day following, at nine in the morning, his pulse was regular and free, his tongue was reduced to nearly its usual size, but was still of a black colour. He was free from any convulsive motions upon the abdomen, or palpitation. In the morning, he had slept comfortably for four hours, and awaked without starting. He seemed, however, to be still indistinct, and did not complain of the pain of his blisters. I only ordered, that he should drink freely of barley water, with a proportion of nitre; and, in case of any symptoms of fits, that the drops should be repeated.

When I visited him on the 15th, I found that he had been tolerably easy during the preceeding day and night. But that he had complained once or twice of a shivering. This the attendants suspected to be a symptom of a returning fit, and they accordingly repeated his drops, soon after which the shivering left him. His belly continued open, and his blisters discharged freely. I
ordered

ordered nothing but a gargle composed of a decoction of sage, melrose, and lemon-juice.

On the 16th, he continued to recover, and had no particular bad symptom. I then indulged him with a more liberal diet, and the use of wine. And I learned from him that he had never before been affected with fits, and that he could recollect nothing that happened from the time of his having first seen his fellow-servant lying dead, till the evening of the 14th, which was the day following.

By the 20th of the month, he was in every respect in perfect health. But he still complained of weakness, and had frequent sighings, which he ascribed to the loss of his fellow-servant. As he was of a remarkably gross habit of body, I ordered the size of a crown-piece to be kept open in the blister between his shoulders, till two issues, which I at that time put in his arm, should have effect. These soon discharged freely; his back was then healed, and he continued free from any return of his complaints.

VOL. III. X SECT.

S E C T. III.

Medical News.

MR CRUIKSHANK of London, in a letter to Dr Duncan, gives the following account of Mr John Hunter's opinion of the puerperal fever :

“ Mr Hunter, in some lectures which he read at his own house last winter, among other things, treated of the inflammation of cavities. He told his pupils, that he wished to impress them with horror at the thought of exposing any large cavity in the animal body. He affirms that, when any such cavity is laid open, it begins soon after to inflame ; that this inflammation, for the most part, spreads over the whole cavity, and terminates in suppuration, granulation, and an obliteration of
the

the cavity. He admits that, sometimes after the whole of a cavity has inflamed, the sides may unite by what he calls the adhesive inflammation, without going on to suppuration or granulation. Of this, there are instances in the case of the tunica vaginalis propria testis, when the operation for the radical cure of the hydrocele is performed. Even parts of cavities may, he thinks, unite also in this manner, at the beginning of inflammation, and prevent the inflammation from spreading over the whole cavity. By this means, in cases of the operation above alluded to, the surgeon will sometimes be disappointed in endeavouring to bring about a radical cure.

Mr Hunter thinks that, when the inflammation of a cavity terminates in adhesion merely, the danger is less than when it terminates in suppuration and granulation. And if the cavity be small, and of little importance, the danger may sometimes be very inconsiderable. More frequently, however, while cavities are going thro' the different stages of inflammation, suppuration, and granulation, the irritation thus induced on the system is great enough to destroy the patient.

As an example of the inflammation of an internal cavity destroying a patient in this manner, Mr Hunter points out the inflammation of the peritoneum after labour; a circumstance which, he maintains, frequently proves fatal to lying-in-women. This disease has commonly been called puerperal fever. But Mr Hunter thinks that it may more properly be denominated inflammation of the peritoneum, because he finds the peritoneum to be only, or principally affected. He affirms, that the substance of the uterus, the abdominal viscera, and the muscular and villous coats of the intestines, in general, remain sound. And when the inflammation does pass to these, he thinks that it is from consent with the peritoneum, the inflammation always beginning in that part.

“ Mr Hunter does not refuse that lying-in-women may have fevers peculiar to themselves, and that such fevers may kill. But he is convinced, from what he has seen on dissection, that the disease most frequently fatal to them is merely an inflammation; and that the febrile symptoms are like those after the amputation of a limb, owing to an injury done to a particular part, and not to any specific disease.

This

This inflammation of the peritoneum is not, he thinks, peculiar to women. He has often seen it take place in men after the operation of the paracentesis, for the dropfy of the abdomen. In such cases, the disease had the same consequence, as well as the same cause, as in women.

“ The cause he believes to be an injury done to the peritoneum, as forming a cavity. By such causes, its present state is either suddenly changed, or it is rendered imperfect. The injury done to the peritoneum, in the case of women after delivery, he ascribes to two causes. Sometimes it proceeds from want of disposition in the womb to recover itself after labour. By this means, the peritoneum, as a cavity, must necessarily be affected. At other times, it proceeds from the too sudden emptying of the abdomen. By this means, the peritoneum will not always recover itself so as to be properly adapted to its new state. This last cause may also hold with men after the operation of the paracentesis. But, in them, besides the sudden emptying of the abdomen, there is the additional circumstance of a wound, which renders the peritoneum, as a cavity, imperfect.

“ The circumstances mentioned above, have, he thinks, the same effect on cavities in animal bodies, as if these cavities were laid open, or as if they were stimulated internally, by some extraneous matter. They must inflame; and if that inflammation cannot terminate in adhesion, they must suppurate, granulate, and endeavour to adhere, in the second method.

“ The inflammation of the peritoneum sometimes terminates in consequence of an adhesion taking place between the sides of the parts first inflamed. In these cases, the progress of the inflammation is prevented, and the rest of the cavity is secured. But, along the adhering parts, there are intermediate spaces, which, from want of vicinity, cannot adhere. These go on to suppurate, and the abscess leads outwards to the skin. As a proof of this, Mr Hunter has opened abscesses in the groins of women, a short time after delivery, which had begun with all the symptoms of puerperal fever. But, on opening the abscesses, these symptoms disappeared, and the patients recovered.

“ When, however, an inflammation of the peritoneum occurs, it most frequently happens, that it spreads over all the cavity of the abdomen.

There

There takes place an extravasation of fluids into that cavity, mixed with pus. The different viscera adhere by their peritoneal coats. The intestines are distended with air. And the irritation thus induced, kills the patient long before granulations, or an obliteration of the cavity in the second method can take place.

* * * * *

The same ingenious gentleman, whose opinion we have given above respecting the inflammation of the peritoneum, delivered also to his pupils many curious and interesting observations respecting the inflammation of veins. With an account of these we propose to present our readers in a future number. We formerly gave a short view of his opinion respecting the blood's being possessed of the living principle. We are now informed that he is every day more satisfied of its being well founded. Among other particulars, the following circumstance has served to confirm him in it. A man was brought into St George's Hospital for a simple fracture of the os humeri, and died about a month after the accident. As the bones had not united, Mr Hunter injected the arm after death. He found that

the cavity between the extremities of the bones was filled up with blood which had coagulated. This blood was become vascular ; in some places it was very much so. He does not maintain that all coagulated blood becomes vascular ; and indeed the reason is obvious : For it is often thrown out and coagulated in parts, where its becoming vascular could answer no end in the system, as, for example, in the cavities of aneurismal sacs. If it be supposed, that, in such cases as the present, the vessels are not formed in the coagulum, but come from the neighbouring arteries, still, he thinks, it is equally an argument that the blood is alive. For the substance into which vessels shoot must be so. The very idea, that such a quantity of dead matter as the whole mass of blood, circulates in a living body, to him seems absurd.

* * * * *

Mr de Buffon, in an advertisement prefixed to the third volume of his history of birds, informs the public, that the state of his health and other circumstances having put it out of his power to execute his intentions, he has entrusted this part of his work to Mr Gueneau de Montbeillard, in-

to whose hands he has put all his own observations; and accordingly, we find, that the greatest part of this third volume is the work of that gentleman. In this advertisement, Mr Buffon expresses his obligations to that intrepid and indefatigable philosopher, Mr Bruce of Kinnaird, in the following terms. ‘ A new aid which I have received, and which I am anxious to announce to the public, is the free and generous communication which I had of the drawings and observations of James Bruce, Esq; of Kinnaird, who returning from Numidia, and the interior parts of Abyssinia, stopt in my house for several days, and made me a partaker of the knowledge which he had acquired, in a tour no less fatiguing than hazardous. It filled me with the utmost astonishment to view the numerous drawings which he had made and coloured himself. He possesses the most perfect representations and descriptions of the birds, fishes, plants, edifices, monuments, drefs, arms, &c. of different nations, all of them objects worthy of knowledge. Nothing has escaped his curiosity, and his talents have been proportioned to it. The English government will without doubt take proper measures for the publication of his work. That respectable nation,

tion, which has given a lead to all others in discoveries of every kind, will not fail to add to its glory, by speedily communicating to the world at large, those of this excellent traveller, who, not contented with accurate descriptions of nature, has made many important observations on the culture of different kinds of grains, on the navigation of the Red sea, on the course of the Nile, from its mouth to its source, which he has been the first to discover, and on different particulars which may be of the highest utility to commerce and agriculture, those great arts which are but little known and ill cultivated. Yet, on these alone, the superiority of one nation over another does depend, and for ever will depend.

* * * * *

Dr Garden of Charles-town, south Carolina, in a letter to Dr Hope, gives the following account of the use of the ashes of tobacco, in the cure of dropsy.

“Here we use with surprisngly great efficacy, in dropfical cases, the alkaline fixed salt of tobacco. It is given from the quantity of half a dram to a whole dram, twice a day, in as little liquid as possible. During its operation, also,

so, the patient is enjoined to use very little liquid and much exercise. This remedy proves deobstruent, diuretic, and purgative, and does make very great cures. After it, however, I generally give purges of rhubarb and sal. martis every second or third day, according to circumstances. Besides this, I sometimes use a strong decoction of the radix Scillae, with some fyrupus scilliticus, and two, three, or four grains of kermes mineral or tartar emetic. These I find a most efficacious purgative and diuretic. I have often used the tinctura cupri, sometimes with astonishing success, but frequently without the least observable effect.

The cream of tartar, in small doses, is a favourite medicine of mine in bilious complaints. I wish you would try small doses of it in your nervous fever, so as to keep the belly mildly open, now and then giving a pill of three grains of ipecacuanha to clear off the saburra of the stomach. I have often given these with good effect, forbidding the use of wine till the first and second stages of the disease were over. The stomach and bowels seem to be chiefly affected at first in the nervous fever. This indisposition of the stomach and hollow viscera, is not the effect but the cause, of
much

much of the affection of the nerves. Time and farther experience will shew whether I reason right.

* * * * *

Dr James Saunders, physician at Banff, in a letter to Dr Duncan, gives the following account of a trial which he made of the remedy prepared by Mr Hill of Ormskirk, which has been so much celebrated against the bite of a mad dog.

“ In the month of May 1774, a mad dog got into a farm in this neighbourhood, and bit some cattle and sheep. Some of them went mad, upon which, every animal which was believed to be bit by the dog, was killed. But some weeks after, a cat about this farm house, suddenly fixed on the naked arm of one of the servant maids, and immediately thereafter, bit the mistress of the house through a course stocking. After biting the women, she fell to tearing every thing about her, and was killed on the suspicion of madness. The people were much alarmed, and asked my advice. Some gentlemen were at that time with me, who were zealous advocates for Mr Hill's medicine. Accordingly, the persons who were bit got next morning some doses of it, which
were

were taken agreeably to the printed directions. The wounds healed soon, and both patients were in their own minds perfectly secure. But, in the end of November last, the maid servant was seized with a pain in the hand which had been bit. This pain soon extended to the arm; and next day a hydrophobia came on; and she died in two or three days thereafter, with every symptom of canine madness. The mistress still continues well, although her mind has been much disturbed with a dread of the disease."

* * * * *

An English gentleman of experience and candour, who has travelled through Arabia Petrea, gives the following account of a method of curing the stone in the bladder, which he has frequently seen performed with never failing success.

"On the coast of Arabia Petrea, beyond the mountains of Sohar, in the dominions of Muscat, they have an effectual remedy for the stone in the bladder. By means of a catheter, they inject into the bladder a weak lee of alkali or ashes, with the purified fat of a sheep's tail, and a proper quantity of opium all compounded together. This never fails to dissolve the stone, a complaint
to

to which the inhabitants of these parts are very subject. Their catheters are made of gold, and, in the performing of this operation, they are introduced quite into the bladder; so that the composition is safely conveyed to the stone, without injuring any other part. When a stone is situated in the kidney, this remedy is inadmissible, and they have no cure for it.

* * * * *

A practical treatise on midwifery, by Mr Alexander Hamilton, surgeon in Edinburgh, intended to afford a concise view of the most essential rules of that art, has been in the press for some time, and will probably be published in the beginning of winter.

SECT.

S E C T. IV,

List of New Books.

Philosophical tranſactions, giving ſome account of the preſent undertakings, ſtudies, and labours, of the ingenious, in many conſiderable parts of the world. Vol. LXV. Part. 1ſt. 4to, London.

Obſervations on the abuſe of medicine. By Thomas Withers, M. D. 8vo, London.

Some thoughts on the nature of fevers ; on the cauſes of their becoming ſo frequently mortal ; and on the means to prevent it. 8vo, London.

An eſſay on Bath-waters. Vol. II. By William Falconer, M. D. 8vo, London.

An Eſſay on the peſtilential fever of Sydenham, commonly called the goal, hoſpital, ſhip, and camp-fever. By William Grant, M. D. 8vo, London.

A trea-

A treatise of a cataract, its nature, species, causes, and symptoms, &c. By George Chandler. 8vo, London.

An illustration of the sexual system of the genera plantarum of Linnaeus. By John Miller, Folio, London.

Infancy, a poem ; book the second. By Hugh Downman, M. D. 4to, London.

Experiments, researches, and observations, on the vitreous spar, or sparry fluor ; translated into English from the French of M. Boullanger. 8vo, London.

The use and abuse of sea-water, impartially considered and exemplified, in several cases, with observations. By Robert White, M. D. 8vo, London.

Elements of anatomy, and the animal oeconomy ; from the French of M. Perfon. Corrected, and considerably augmented with notes. By Samuel Foart Simmons. 8vo, London.

Principes d'institution, ou la maniere d'élever les enfants des deux sexes, par rapport au corps, à l'esprit, et au cœur. 12mo, Paris.

Essai sur les Eaux Thermales de Balaruc, où l'on assigne leurs vertus, la maniere dont on les emploie, les préparations nécessaires avant leur usages,

usages, et les maladies auxquelles elles sont utiles. 8vo, Montpellier.

Differtatio academica de Cancro, quam duplici premio donavit illustris academia scientiarum, humaniorum literarum, et artium Lugdunensis, in conventu publice habito, die octavo Decembris anno 1675. Auctore Ber. Peyrilhe Doctore medico Tolosano, e regio chirurgorum Parisiensium collegio academiae scientiarum, inscriptionum, et humaniorum literarum Tolosanae, et scientiarum Monspeliensis socio. 12mo, Paris.

Histoire des maladies internes. Par M. Raymond de Vieuffens, &c. ouvrage posthume auquel on ajoute la Neurographie, et la traité des vaisseaux du meme auteur. Quatre volumes, 4to, Toulouse.

Abrégé elementaire de botanique à l'usage de l'ecole de botanique de Lille. 8vo, Lille.

Differtatio medico de usu et abusu instrumentorum in arte obstetricia, auctore Claudio Hilario Laurent. 4to, Strasburg.

Memoires de l'académie royale de chirurgie. Tome V. 4to, Paris.

Memoires sur le danger des caustiques pour la cure radicale des hernies. Par M. Bordenave. 12mo, Paris.

Davidis M^cBride, M. D. Introductio methodica in theoriam et praxin medicinae, ex Anglica lingua in Latinam convertit Joh. Fredericus Clossius, A. L. M. Phil. et Med. D. Societati Harlemerensi adscriptus. 2 vols. 8vo, Utrecht.

Huislyke Geneeskunde, &c. in het Engelsch beschreeven door William Buchan, Led van het Koninglyk geneeskundig Genootschap te Edinburgh, i. e. Domestic medicine. By William Buchan, M. D. Translated by J. Lyklama a Nyholt, J. U. and M. D. 8vo, Utrecht.

Dissertationes medicae quas ex auctoritate reverendi admodum viri Gulielmi Robertson, SS. T. P. Academiae Edinburgenae Praefecti; nec non amplissimi senatus academici consensu, et nobilissimae facultatis medicae decreto, pro gradu doctoratus, summisque in medicina honoribus et privilegiis rite et legitime consequendis, eruditorum examini subjecerunt, Prid. Id. Jun. 1775,

Joannes Hunter, Scoto-Britannus; de hominum varietatibus et harum causis.

Ricardus Dennison, Anglo-Britannus; Arterias omnes et venarum partem irritabilitate praeditas esse.

Ricardus Scot Byam, Anteguenfis, De Adminiftratione Antiphlogiftica.

Thomas Dale, Carolinenfis Meridionalis ; De Eryfipelate.

Robertus Peronneau, Carolinenfis Meridionalis ; De Menftruorum profluvio immodico.

Johannes Ludovicus Manget, Civis Reipublicae Genevenfis ; De Digestione.

Gulielmus Gottlob Lilie, Holfato-Germannus ; De Plumbi Virtutibus Medicis.

Gulielmus Mackinen Frazer, Anteguenfis ; De Sanguinis Detractione.

Andreas Wardrop, Scoto-Britannus ; De Dyfenteria Contagiofa.

Robertus Maitland, Scoto-Britannus ; De Gangraena.

Andreas Douglass, Scoto-Britannus ; De Variolae Infitione.

CON-

C O N T E N T S.

Books.

<i>Hunter, W. Anatomy of the gravid uterus.</i>	227
<i>Cullen, W. On the recovery of drowned persons.</i>	243
<i>Portal, M. Observations sur les effets des vapeurs mephitiques.</i>	245
<i>Rush, B. Inquiry into the natural history of medicine among the Indians in North America.</i>	262
<i>Moutin, L. Dissertatio historico-medica de medicina Laponum Lulensium.</i>	272
<i>Lettson, J. C. Medical memoirs of the general dispensary in London.</i>	280

MEDICAL OBSERVATIONS.

<i>The History of a case of the Rabies Canina, by the late Mr Archibald Bathie, Surgeon at Auchtermuchty, Fife-shire.</i>	296
<i>The History of a case of Locked Jaw, with uncommon symptoms, which terminated favourably, by Dr James Moodie, Physician at Newry in Ireland.</i>	304
<i>The History of an anomalous tumour on the eye-brow of a child of fifteen months old, extirpated by Mr James Hill, Surgeon at Dumfries.</i>	313
<i>The History of a case in which violent convulsions were induced by surprize and grief. By Mr John Smith, Surgeon in Uppingham Rutland-shire.</i>	316

MEDICAL NEWS.	322
---------------	-----

LIST OF NEW BOOKS.	335
--------------------	-----

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A N D
P H I L O S O P H I C A L
C O M M E N T A R I E S.

By a SOCIETY in EDINBURGH.

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Alteram fortem bene praeparatum
Pectus.

HOR.

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W. DRUMMOND, *Edinburgh*; and
T. EWING, *Capel-street, Dublin.*

M,DCC,LXXVI.

M E D I C A L

AND

PHILOSOPHICAL

COMMENTARIES

By SOCIETY OF MEDICAL

Physicians in the University of London

and the Royal College of Physicians

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WILLIAM TAYLOR

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M E D I C A L
C O M M E N T A R I E S.

S E C T. I.

An Account of Books.

I.

Chirurgical Observations relative to the Cataract, the Polypus of the Nose, the Cancer of the Scrotum, the different kinds of Ruptures, and the Mortification of the Toes and Feet: By Percival Pott, F. R. S. Surgeon to St Bartholomew's Hospital. 8vo, London.

IN the treatise now before us, the author considers, in the order in which they are enumerated, the different subjects mentioned in the title page. In his observations on the first of these, the cataract, he combats the opinion that

every cataract has its seasons, so as to be at one time immature or unripe, at another, mature or ripe. It has, in general, been supposed, that the term of *unripe* necessarily implies a soft state of the chrystalline lens, while that of *ripe* denotes a hard state. In opposition to this, he contends, that, if we would think and speak of this matter as it really is, instead of using the terms *soft* and *hard*, in opposition to each other, and as implying different effects, either from time or distemper, on the chrystalline, we should say, that dissolution or softening is by much the most common effect; and that, seven times out of nine, when the chrystalline becomes opaque, and tends to form a cataract, it is more or less softened. Sometimes this happens equally throughout its substance, sometimes partially, having a greater or less proportion left undissolved. But even this undissolved part is, he thinks, rarely, if ever, so firm as the center of the found chrystalline.

From the colour of the cataract, Mr Pott imagines, that no conclusion can be drawn with regard to its consistence; but he thinks, that, when the opaque chrystalline is quite dissolved, so as to form what has been called a soft cataract, it is somewhat enlarged; and that, when such
dissolution

dissolution does not take place, and what is called a hard cataract is formed, the crystalline is in some degree lessened. He concludes these reflections by proposing it as a subject of inquiry, to those who may have an opportunity of determining whether the cataracts, which have been found perfectly soft, have not, in general, become more and more opaque by slow degrees, and whether the firm ones do not, in general, become hastily opaque, and are not preceeded or accompanied by severe and deep seated pain in the head, particularly in the back part of it.

With respect to the operation for this disease, the author prefers couching to extraction, as being attended with fewer inconveniencies and disappointments. And he produces several experiments and observations, to shew that the crystalline lens, whether in a hard or soft state, is readily dissolved in the aqueous humour, upon being discharged from its capsule.

Our author's next remarks are with respect to polypi of the nose. It has been the common opinion, that, except in some few particular instances, where the distemper is palpably cancerous, all others are equally the objects of chirur-

gical treatment. Surgeons, therefore, believe, that if, in the first instance, they can lay hold of the polypus with the forceps; and, in the second, can provide against the hæmorrhage which may ensue, nothing is to be dreaded from extracting it. But to Mr Pott the matter appears very differently. He thinks that there are many polypi, which, although they be neither schirrous nor cancerous, are very unfit for any chirurgical treatment whatever. Some circumstances may forbid the attempt, merely from the impossibility of its being successful; others from its being more likely to increase and exasperate the disease than to cure it. He reckons it of consequence, therefore, that those polypi, which may be operated upon with advantage, should be accurately distinguished from those with which the operation would have a bad effect.

He dissuades from operation in all those cases where the polypi begin with considerable pain in the forehead and upper part of the nose, or are preceded by these symptoms, and which, as soon as they can be seen, are either highly red or of a dark purple colour. To the same class also he refers those which, from the time of their being first noticed, have never been observed to be
sometimes

sometimes bigger, sometimes less, but have constantly rather increased; those in which the common actions of coughing, sneezing, or blowing the nose give pain, or produce a very disagreeable sensation in the nostril and forehead; those which, when within reach, are painful to the touch, or which, upon being slightly touched, are apt to bleed; those which do not seem to be moveable by the action of blowing the nose, or of deriving the air through the affected nostril only, when they are confined to one side; those which are incompressibly hard, and which, when pressed, occasion pain in the corner of the eye, or in the forehead, and which, if they discharge any thing, shed blood; those which by adhesion occupy a very considerable space, and seem to consist of a thickening, or an enlargement of the membrane covering the septum narium; those from which there is a discharge of an ulcerous, offensive, discoloured matter; and those, round the lower part of which, within the nose, a probe cannot easily and freely be passed to some height. In all those cases, he is not only of opinion that trials should not be made by the forceps, but farther observes, that he does not think it advisable to attempt them by any other means with

which he has had the good fortune to be acquainted.

On the contrary, Mr Pott advises the operation with polypi which are of a pale light-brown colour, or look like a membrane just going to be sloughy; with those which are seldom or never painful, and do not become so when pressed; with those which have appeared to be at one time larger or another less, as the air has happened to be moist or dry; with those which ascend and descend freely by the action of respiration through the nose; with those which the patient can force downward by stopping the nostril which is free, and then deriving the air through that which the polypus possesses; and with those, round the lower part of which a probe can be easily passed to some height. In all these circumstances, he recommends extraction by the forceps, which he thinks is always preferable to escharotics, ligatures, or any other operation. He farther affirms, that, in these circumstances, polypi are removeable without pain or hazard of any kind; and he particularly remarks, that he has never met with hæmorrhage when the disease was at all fit for operation.

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The cancer of the scrotum our author describes as a particular affection of chimney-sweepers after they have arrived at puberty. It makes its first attack on the inferior part of the scrotum, whence it produces a superficial, painful, ill-looking sore, with hard and rising edges. In no great length of time, our author represents it as seizing the testicles, and making its way up the spermatic process into the abdomen, affecting the viscera, and becoming very soon painfully destructive, unless the diseased part of the scrotum be extirpated upon the first attack, and before the habit is tainted.

The observations and cases relative to the different kinds of ruptures with which we are presented in the volume before us, are intended as an appendix to the author's general treatise on that subject. About twenty cases of intestinal, omental, and congenial herniae, are here related, together with two of the hernia vesicae urinariae, and one of the ovarian hernia. With respect to omental herniae, our author allows, that they are not attended with those immediately hazardous circumstances which necessarily accompany intestinal ones. But he contends, that they will sometimes prove fatal, and that from two causes, either

either by an affection of the omentum itself, in the way of inflammation, suppuration, mortification, or schirrus, or by keeping open an hernial sac, and thereby giving occasion to a protrusion of the intestines. Concerning the means of relieving the symptoms of intestinal herniae, Mr Pott observes, that blood-letting, the warm bath, and glysters of the smoke of tobacco, or of an infusion of that plant, have been very successful with him; and that embrocations, fomentations, and poultices, have been of little or no use at all.

On the congenial hernia, our author explains the difference between it and the more common cases; and observes, that the sac is not formed by an unnatural protrusion of part of the peritonaeum, but is made by the inclosed vaginal coat of the testicle.

The last article of this work contains observations on the mortification of the toes and feet. Of this disease the author first gives a history; he then observes, that the bark, and warm applications of every kind, have been very unsuccessful in the cure of it; and that, by the free use of opium, together with sedatives and relaxants, externally applied, he has frequently seen the tumefaction of the feet and ancles subside, the
skin

skin recover its natural colour, and all the mortified parts separate in a very short time, leaving a clean sore. As to scarifications, or any other attempt to separate, artificially, the mortified from the sound parts, he thinks them very prejudicial, by giving pain, which is generally of itself violent in this disease, and which seems to have a great share in producing the other evils.

II.

Observations sur la Structure des Parties de la Génération de la Femme ; par Mr Portal. Vide Histoire de l'Academie Royale des Sciences, Année 1770. 4to, Paris.

MR PORTAL, after mentioning a variety of different opinions that had prevailed among anatomists respecting the parts subservient to generation in women, proposes to give some observations of his own on this subject. In the memoir before us, he confines himself to the internal parts of generation in women. He remarks, in the first place, that the position of the uterus is different at different periods

riods of life. In the foetus of three or four months, the uterus is almost without, and under the pelvis; in so much, that a line drawn from the os pubis to the os sacrum, falls very near the neck of the uterus. In a child newly born, the uterus falls without the level of the superior surface of the os pubis. In a girl, from fifteen to thirty-five years of age, the uterus is placed above the os pubis, and, in an old woman, it is found very far within the pelvis. The axis of the uterus is almost perpendicular in the foetus; whereas, in old women, it appears almost horizontal.

These differences in the position, our author attributes to the developement of the pelvis.

He observes, in the *second* place, that the figure of the uterus is different at different periods of life. It resembles, in some measure, a prism in the foetus, and in infants. In the adult, it is almost triangular; and it is irregularly rounded in old women, even in such as have never had children. The cavity of the uterus varies also in proportion to the different periods of life; but, in order to observe this, it is necessary to clear it from the peritonaeum and ligaments; on its

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connection with each of which, he offers a few remarks.

The uterus is covered, through its whole length, by a duplicature of the peritonæum, except the exterior face of the neck; and even this part is covered by a reduplication of the vagina, more prolonged behind and below, than it is before and above.

The lamina of the peritonæum, which covers the anterior part of the uterus, is folded back near to the vagina, in such a manner, as to form two kinds of ligaments placed beside the neck of the bladder. Above, and upon the sides, it includes two bundles of vessels, and forms the round ligaments. This anterior lamina stretches upon the sides of the uterus, forms the anterior lamina of the ligamenta lata, and adheres to the iliac muscles; from whence it is reflected forwards, covers the anterior portion of the iliac muscle, and joins with the anterior lamina of the peritonæum. The posterior lamina of the uterus forms, by two reduplications, two kinds of circular ligaments, in which Mr Sue thought he found two muscles. These two ligaments embrace the rectum. The broad ligaments stretch much less in height when the uterus is developed
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in women with child ; the anterior and posterior reduplications of the peritoneum are almost effaced : So that, amongst other uses, these ligaments seem to assist the developements of the uterus. The broad ligaments divide the pelvis into two anterior apartments ; of which, in the adult, the one is smaller than the other ; whereas, in infants, the two are nearly equal. This is owing to the different inclination of the os sacrum, which takes place at different periods of life.

The two membranous laminae of the ligaments are easily separated. Between them we find a vascular net-work. The uterus also may be slipped out of the envelopment of the peritoneum, and removed out of the belly, without opening the true lamina of the peritoneum. It is necessary, however, to tear certain cellular productions which run into the fibres, and seem to give them common sheaths. Two of these sheaths are evidently seen in the lateral and inferior parts of the uterus, accompanying and inclosing the uterine vessels, in the same manner as the capsule of the liver surrounds the vena portarum, as *Walaeus* has remarked before *Glisson* ; to whom, however, learned anatomists have given the honour of the discovery. It is this capsule that supports the vessels in their convolutions, and
which

which fixes them, by means of muscular attachments, to the proper substance of the uterus. Mr Portal remarks, that the cellular sheaths of those vessels are sometimes loaded with fat; and, in certain dropfies of the uterus, they are filled with water.

In regard to the discovery of the ligaments of the uterus, Mr Portal is of opinion, that the ancients were only acquainted with four, and that Hermondaville, who professed anatomy in France about the middle of the thirteenth century, and whose surgery is preserved in manuscript in the King's library, and in the library of the Sorbonne, was the first who advanced that the uterus was attached by eight ligaments.

Our author returns now to speak of the cavity, which he had already observed to vary at different periods of life. In the infant, it is formed of four *planes*; one anterior, which has the figure of a parallelogram; two lateral and posterior, which join one another; and a bottom, the figure of which approaches to a triangle. The posterior part, although formed of two planes inclined to one another, and which form on the back of the uterus a projecting angle, is raised within towards the middle. The anterior part, viewed from the
side

side of the uterus, presents a similar elevation. Betwixt the anterior and two posterior planes are two kinds of furrows, in which several projecting circular lines are observed. At this age, the uterus is thicker towards the neck than the bottom; the reverse of this happens in the adult. This observation was made by Mr Sué. Different projecting lines are observed in the internal surface. There is a longitudinal one in the middle of the posterior part, which rises from the posterior ligament of the os uteri, where it is more elevated than at the other extremity, which is sometimes forked. Sometimes, in place of one, there are found two or three projecting and parallel lines, about the middle of the posterior part, where they separate, inclining towards the sides. From the lateral parts of these, several other projecting lines rise, which make the tour of the uterus, or which join to a longitudinal stalk, placed sometimes in the middle of the anterior face of the uterus. These appear as so many branches united to one trunk, forming a kind of tree, which Mr Portal thinks may be called *arbor vivificans*, to distinguish it from *arbor vitae* vitae of the *cerebellum*. These lines, in a young person, have a resemblance to a branch of the palm-tree. Be-
twixt

tween the branches, and chiefly towards the trunk, and the os uteri, several holes are observed. These are the openings of the excretory ducts of certain gangliforme bodies ; from which a viscouſ matter runs out, upon ſqueezing the ſides of the uterus. There is not a better way of making theſe holes appear, than by broiling a piece of the ſubſtance of the uterus before a good fire.

The *cavity* of the uterus is much more contracted in the adult than in the foetus or infant. The trunk of the tree, with its branches, are either effaced, or the intermediate ſubſtance is raiſed. Thro' length of time, the ſides of the uterus approach one another, which diminifhes its cavity. Mr Portal has always found in the uterus, at all ages, the ſides thicker than the anterior or poſterior part.

There are certain excreſcences that riſe on the internal part of the uterus of old women, even in thoſe who had had no children. Theſe have been deſcribed by authors, but not as happening ſo frequently as they really do. Mr Portal found them in thirteen of twenty women, whoſe bodies he had opened on purpoſe.

Our author concludes his observations upon the uterus, by remarking its extreme irritability, which he finds to be infinitely greater in the internal than the external surface, in the same manner as Senac and Haller had found with regard to the heart.

III.

Reflexions sur les Areometres, particulierement sur les Principes d'apres lesquels on peut en faire de comparables ; avec la description d'Areomètres d'argent, destinés à déterminer les pesanteurs spécifiques des Esprits-de-vin et des Eaux-de-vie, et des moyens d'en faire de pareils, ou de comparables. Par M. Le Roy. Vid. Histoire de L'Académie Royale des Sciences, année 1770. 4to, Paris.

THE Farmers-general, having expressed a wish to have a certain rule for determining the strength of spirituous liquors, which might be used both by their clerks and by merchants, M. Le Roy was induced to turn his thoughts to this subject. In order to answer the end in view, he
imagines

imagines that the following requisites are necessary. 1st, That the instrument employed for the above purpose should be simple, convenient, and portable. 2^d, That it should have as great a degree of mobility as is consistent with its object, so that, when plunged into different liquors in the same degree of heat, it may always show nearly their respective degrees of *specific gravity*. 3^d, That it may be possessed of this mobility, it is necessary to confine its range within spirit of wine and weak brandy; because the difference of specific gravity of pure water and spirit of wine is so great, that an areometer could not mark these degrees, without either too long or too thick a scale. In the first instance, it would not be portable, and, in the second, it would not be sufficiently sensible. And, 4th, that this instrument should admit of comparison, that is to say, that any number may be made, according to certain principles, all marking invariably the same degrees.

M. Le Roy proceeds to explain the principles upon which these properties are attainable. In areometers, he observes, two things are to be considered, bulk and weight; they can only be comparable when the bulk, as marked by the de-

degrees of their scales, is amongst themselves respectively as the weight of the areometers. This is evident; because fluids being considered as homogeneous, the weight of any quantity is always as its bulk, and *vice versa*. Thus, whenever areometers shall mark, by their correspondent divisions, bulks which shall be to one another as the respective weights of the areometers, these instruments will be comparable, in all the rigour of the word, since these corresponding divisions will always show, in the same manner, the relation between the weights of the volume of the fluid into which they are actually plunged. But this principle once established, it is easy from thence to deduce the whole theory of the comparability of areometers; for it is plain, that, in order to make them comparable, it is only necessary to graduate them in such a manner, that the space they occupy in fluids, marked by their corresponding degrees, should be always as their respective weights. From hence any method, by which we can determine upon their scales two points, at which the volumes marked have the same relation as the respective weights of different areometers, will furnish means of dividing these scales into similar parts in such a manner, that

that the degrees which they shall mark will perfectly correspond in the same fluids. Thus, for example, if we take two areometers, and plunge them into two different fluids, in such a manner, that in one they sink almost to the top of their stalks, and in the other only to the beginning of it; and if we then mark upon each of the stalks these points of immersion, we shall have, by dividing into similar parts the interval betwixt these points, two areometers that can be compared; for, when we have marked the respective points of immersion in different fluids, it is certain, that the bulks of these fluids displaced, was respectively as the weight of the areometers, since they remained at rest. Farther, in adding to or taking away from the bulks occupied at these different points, by similar parts of the scale, the proportion between the weight and these bulks marked will be always the same. These instruments are therefore comparable in all the degrees of their scale. M. Le Roy farther observes, that we may obtain the same end, and determine the second point in the scale at which the bulk will be in proportion to the weight of the areometers, by substituting small weights in the room of the lightest fluid.

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Thus we have two methods of constructing areometers that can be compared with one another: 1st, By employing two fluids, to mark the two points necessary for the division of the scale, which are of such a nature, as that they may always be had identically the same: Or, 2^d, by using one fluid only for the first term of division, as distilled water, for example, and to obtain the second by charging the areometer with a known weight, to make it sink to the requisite depth. The difficulty of finding two fluids of a determined specific gravity, is a sufficient objection to the first method. The most certain means of succeeding is, by employing the second, to make use of distilled water, the weight of which is supposed constant, for the first term of graduation, and then to determine the second by means of small weights, equal, if the areometers are of the same weight, or proportioned to their weight, if they be different.

M. Le Roy proceeds then to explain the method he used in constructing some areometers which he laid before the society for their inspection. This consists in precautions to have the ball and the stalk as nearly as possible of the same size and uniform thickness throughout. For these purposes, the ball is turned upon a loom;
the

the interior surface is made to fit a block of a determined size, and the exterior to correspond with a mould. The two halves of the ball, thus formed, are soldered together; the stalk is made of a solid plate of metal of equal thickness throughout; and, that its bore may be uniformly cylindrical, it is drawn as wire through a hole of a wire-drawing plate. When thus prepared and fitted to the ball, the areometer is completed, by graduating it in the manner already mentioned.

The experiments made with these areometers fully answered the expectations of those who proposed the inquiry: And M. Le Roy observes, that an artist, accustomed to construct them, cannot fail to make them sufficiently exact for every purpose.

IV.

Remarques sur la Structure du Canal Thoracique, et sur celle du Reservoir du Chyle. Par Mr Portal. Vide Histoire de l'Academie Royale des Sciences, année 1770. 4to, Paris.

MR PORTAL begins with a brief historical account of the progress of discoveries, with regard to the thoracic, duct. He observes,

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that the antient anatomists were intirely ignorant of it. Eustachius perceived it first in the horse ; but the discovery of it in man is intirely due to Pecquet. Vanhorne, his fellow student and friend, gives a more minute description of it ; and Du Verney improves upon their labours.

Pecquet, who at first only observed this organ in the dog, had perceived that the insertion of the lacteal veins into the thoracic duct was made into a kind of bladder, or that the lower part of the duct was swelled, and formed a reservoir, to which anatomists have even given his name. He thought he could infer from this, that some reservoir was also to be found in man. This conclusion was too hasty ; but Pecquet was the more excusable on this account, that, though the reservoir is not actually found, yet the inferior extremity of the duct, at which the lacteal vessels are inserted, is covered with a cellular expansion, which gives it such an appearance. It is this point of anatomy which Mr Portal wants to ascertain ; and the following is the result of his observations. He maintains, that this supposed reservoir of the chyle does not exist in man ; that, in more than thirty subjects which he dissected, he found the lacteal vessels communicating

municating immediately with the inferior extremity of the duct, which forms, at this place, a kind of sac or vascular ring, covered with a cellular web; that the lacteal vessels may, by address, be disengaged from this cellular substance; and that it is probable anatomists have been deceived by an appearance of a membrane, which the cellular substance acquires by age.

This reservoir of the chyle, which does not exist in man, is found in several animals. It is found in the dog, where Pecquet saw it. The squirrel and the ape have several reservoirs, and as many ducts. In some fishes they are still more numerous; Mr Ferrein saw them to the number of seven in the dolphin.

Mr Portal observes, that there are sometimes ramifications of arteries, void of blood, as also lymphatic vessels, which spread on the inferior part of the thoracic duct, without entering it, and which might be taken for lacteal vessels, if we were not assured of the contrary before hand.

Above the insertion of the lacteal vessels, the thoracic duct rises almost perpendicular, and follows the course of the spine; but, at its superior extremity, it makes a small flexure to gain the
left

left subclavian vein; sometimes, but rarely, this extremity divides into two branches, of which one enters the left subclavian, the other the jugular of the same side.

The thoracic duct becomes larger at its upper extremity. This increase of bulk made Mr Portal imagine that there were communicating vessels at this place. In order to discover them he inflated the lymphatic vessels of Willis, which spread on the exterior parts of the lungs, and the air made its way into the duct by two lymphatic tubes, which enter it at that place. He has since found two others of the same kind. Some anatomists, Bartholin particularly, and Albinus, seem to have been acquainted with some of these; but those on the anterior part of the duct seem not to have been known before. Mr Portal has demonstrated six ducts, which seem to arise from the oesophagus and fat of the mediastinum. The use of these vessels is yet unknown; but it is a good deal to know their existence. The openings of these ducts into the thoracic are furnished with valves.

The resemblance betwixt the chyle and milk has made some imagine, that there was an immediate

diate communication between the thoracic duct and the mammae; but Mr Portal has not been able to find any vestige of such communication, whatever researches he made for that purpose; a striking proof that the most plausible conjectures ought never to be taken as facts, or received without a strict examination.

V.

Disputatio Inauguralis, Quaedam de Hominum varietatibus et harum causis exponens. Auctore Joanne Hunter. 8vo, Edinburgi.

FEW questions in philosophy have of late more engaged the attention of naturalists, than those which respect the diversities among the human species. But all that has hitherto been said upon this subject by no means serves to exhaust it. And it is even still a matter of dispute, whether mankind can be considered as arising from the same origin or different ones. We apprehend, therefore, that a short view of the observations which the author of the present dissertation has here given, both with respect to the diversities among the human species, and the causes on which he supposes these diversities to depend, will not be unacceptable to our readers.

Dr

Dr Hunter introduces his subject by observing, that, when the question has been agitated, whether all the human race constitute only one species or not, much confusion has arisen from the sense in which the term *species* has been adopted. He therefore reckons it necessary to set out with a definition of the term. He includes under the same species all those animals which produce issue capable of propagating others, resembling the original stock from whence they sprung. This definition he illustrates, by having recourse to the human species as an example. And, in this sense of the term, he concludes, that all of them are to be considered as belonging to the same species. And as, in the case of plants, one species comprehends several varieties depending upon climate, soil, culture, and similar accidents, so he considers the diversities of the human race to be merely varieties of the same species, produced by natural causes.

In treating of these varieties, our author divides his subject into four parts. In the first, he considers the differences in colour; in the second those with respect to stature and shape; in the third, he treats of the excess or defect of certain parts; and, in the fourth, of the differences which occur with respect to the powers of mind.

Of

Of all the differences among the human species, the most striking varieties are what occur with respect to colour. Of these our author gives the following view.

BLACK. Africans under the line.
Inhabitants of New Guinea.
Inhabitants of New Holland.

SWARTHY. The Moors in the northern parts of Africa.

The Hottentots in the southern parts of it.

COPPER-COLOURED. The East-Indians.

RED-COLOURED. The Americans.

BROWN-COLOURED. Tartars.

Persians,

Arabs.

Africans on the coast of the Mediterranean.

Chinese.

BROWNISH. The inhabitants of the southern parts of Europe, as

Sicilians,

Abyssinians,

Spaniards,

Turks,

Samoides and Laplanders.

WHITE.

WHITE. Most of the European nations, as

Swedes,

Danes,

English,

Germans,

Poles, &c.

Kabardinski,

Georgians,

Inhabitants of islands in the Pacific
Ocean.

In attempting to investigate the causes of these differences, our author observes, that there can be no dispute of the seat of colour being placed in the skin ; that it is not even extended over the whole of this, but confined to that part termed the cuticle, consisting of the epidermis and reticulum ; and that it chiefly occupies the latter of these. The cuticle is much thicker and harder in black people than in white ones ; the reticulum in the latter being a thin mucus, in the former a thick membrane. He concludes, that this seat of colour in whites is transparent, and either totally deprived of vessels, or furnished with very few only ; as the yellow colour appearing in jaundice vanishes on the cause of the disease being removed, which is not the case with stains in the cuticle from gun-powder, or similar causes. He

next

next points out three causes destroying the pel-
lucidity of the cuticle, giving it a brown colour,
and rendering it thicker. These are the access of
air, nastiness, and the heat of the sun. The in-
fluence of each of these he proves by many ex-
amples, and from these he is inclined to consider
the last as by much the most powerful. If, how-
ever, it be admitted that these causes have this
effect, he thinks that all the diversity of colour
which is to be observed among mankind, may be
thus accounted for. He remarks, that all the in-
habitants of the torrid zone incline, more or less,
to a black colour. When we observe the differ-
ences which occur amongst them, we must at
the same time remember, that a black colour is
not referred to heat alone, but to the other causes
also; and when we attend to the diversity of tem-
perature which occurs even in the torrid zone,
the existence of a white nation there would by
no means destroy the argument. He is farther
of opinion, that the existence of a brown colour,
and of considerable varieties from white, in the
northern and coldest parts of Europe, may very
easily be explained. This he accounts for from
the manner of life of the inhabitants, by which
they are either exposed to the inclemency of the
air, or to constant nastiness from smoaky houses.

The

The next subject of which Dr Hunter treats is, stature and figure. With respect to stature, he observes, that, among mankind, there are no inconsiderable differences. The inhabitants of some parts of America grow to the extent of seven feet, while, in some parts of the Frigid Zone, they hardly reach four. For explaining these diversities, he endeavours to show, that the action of the heart, and the motion of the body, are the immediate causes of growth; and that the effects of these are limited by the rigidity of the fibres.

These being admitted to be the immediate causes, he next inquires by what external circumstances they will be affected, in such a manner as to vary the stature. The chief circumstances which will influence them are, he thinks, temperature, diet, exercise, and labour. The temperature of the atmosphere may act either by heat or cold. From the influence of heat, as increasing mobility, our author accounts for the inhabitants of warm climates arriving so soon at their full stature; he thinks, however, that it can have little influence either as increasing or diminishing size. And, in fact, it is observed, that both large and small men are to be met with in very warm, as well as in temperate climates. If

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it have any influence upon stature, he thinks that it must tend rather to diminish than increase it ; because the same causes giving quick growth, induce also speedy rigidity of the fibres. Cold, on the other hand, which may be considered merely as the absence of heat, from its sedative influence, tends to retard the growth, and, at the same time, very considerably diminish the stature. Between exercise and labour, the only remarkable difference is, that the one is voluntary, the other from necessity. Our author imagines, therefore, that both may be considered under the head of motion ; and this he views as of three kinds, either violent, moderate, or slight. Violent action, by increasing the rigidity of parts, and exhausting the vital power, retards and prevents growth ; while, on the other hand, very inconsiderable motion or rest prevents the different parts of the body from acquiring that vigour, by which alone they are capable of exerting their functions. He considers moderate exercise, therefore, as, of all others, the most favourable to growth.

But, of all the causes affecting stature, he maintains, that the influence of the food is the most powerful ; and this he proceeds, in the last

place, to consider. He thinks it equally unnecessary to explain why scarcity should occasion a small stature, as why frequent and full diet should have a contrary effect. These circumstances operate so manifestly on the brute creation, that no room can be left to doubt their influence; but, as the diet has influence from quantity, so it has also by its qualities. It may be ill suited for growth either from defect or excess of stimulant powers. Upon the whole, our author considers a diet as plentiful as can easily be digested, consisting partly of farinaceous vegetables, partly of flesh, as, of all others, most favourable to growth.

In shape, our author observes, that there are infinite varieties, each individual being characterized by a set of features in some measure peculiar to himself. But, farther, there are signs or marks peculiar to nations; as, for example, depression of the nose, thickness of the lips, smallness of the eyes, or the like. Whatever may be the original cause of these, our author is of opinion, that they can by no means be considered as marks of a distinct species, as instances of them are to be met with in every nation. Without pretending to explain from whence they are originally derived, for illustrating the principles upon which they

they are continued, after being once produced, he refers to what is afterwards said on the subject of generation.

In the third chapter, the author offers some remarks on the defect or excess of different parts. Here Dr Hunter observes, that, if we are to credit every thing that has been advanced, we should have a very extensive and intricate field of inquiry; but, rejecting the extravagant opinions of those who have either had sufficient knavery to assert, or sufficient credulity to believe, that there are some nations with but one eye, others furnished with tails, or the like, he proposes to speak only of those particulars which are not so absurd as to require no refutation. And here, he thinks, there are three particulars which merit attention: These are, the want of a beard, pendulous breasts, and a prominence over the pudenda. The want of a beard he ascribes solely to its being plucked out; and, where the breasts of females are observed to be remarkably pendulous, he imagines that it is to be accounted for from the method which they have of suckling their infants; the peculiarity in the pudenda of the Hottentot women has, he observes, been much the subject of dispute, some affirming, o-

thers denying its existence. Admitting its existence, however, he remarks, that the most accurate observers consider it to be nothing else but turgid or prominent nymphæ, a peculiarity which, he thinks, less astonishing, as we are by no means sure that it does not sometimes exist in every country.

His next remarks are with respect to the differences of hair. The chief varieties in hair are in point of colour. This seems, however, to be in some connected with the complexion; black hair is very universally connected with a swarthy complexion; while, on the contrary, those who are fair have red or white hair. The black colour of the hair is, he thinks, to be accounted for from the same causes giving a dark complexion. Differences also occur with respect to the texture of the hair; with some it is hard and strong, with others soft and downy. The hair being placed upon the surface of the body, he concludes that its growth will necessarily be affected by all causes altering the flow of humours there; and accordingly he remarks, that the beard particularly is observed to grow most rapidly in the summer. Hence he concludes, that the hair will naturally be more luxuriant and thick in warm than in cold climates.

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Of this the inhabitants of the East and West Indies afford striking examples. He admits, however, that a remarkable exception occurs in the case of the African blacks; but this, he thinks, may be accounted for from the discharge which takes place by the surface; the quantity of fluids entering the hair being thus diminished, and their growth prevented. And this opinion is, he imagines, confirmed by examining the bulbs of the hair in those blacks with whom it is so remarkably soft, which appear small and slender, as if they were deprived of nourishment.

Having thus attempted to account, from natural causes, for the varieties which occur with respect to the colour, stature, and other differences among mankind, our author observes, that, to all this reasoning, an objection will naturally be made, from considering that infants bring these marks into the world along with them, before they can be exposed to any such causes. Dr Hunter imagines, however, that this may readily be explained, upon the supposition that many peculiarities acquired by parents are transmitted to their posterity; and of this, he thinks, that no one can have any doubt who attends to hereditary diseases. Thus, gout, scrophula, mania, and ma-

ny other affections, although at first induced by particular accidents, will continue to affect families for many generations. In the same manner, a parent exposed to causes destroying the natural whiteness of his complexion, will beget swarthy children; and the same causes continuing to operate upon the son, the blackness will be increased. Thus all the different shades may have been at first induced, and afterwards continued.

The last subject of which our author treats, is the diversity occurring with respect to mental powers. Here, he thinks, that two particulars chiefly claim attention, the understanding and the manners. To the first, he refers acuteness of genius and quick comprehension, on the one hand, and a dull and untractable disposition on the other; to the second, alacrity and courage, put in opposition to sadness and timidity. These varieties, of which there are numerous examples, are by no means, our author maintains, to be referred to any diversity in mind, but merely to the manner in which its powers are exercised; and, among the various circumstances which diversify the exertions of the mental powers, he thinks that situation, education, and the principle of imitation, which is so powerful with the human race,

race, have the chief influence. Thus he thinks that diversities, in this respect, as well as in other particulars, may be explained without having recourse to the supposition of a different origin.

VI.

Medical Transactions, published by the College of Physicians in London. Vol. III. 8vo. London.

WE are informed, in an advertisement prefixed to the work before us, that it is uncertain when the college will go on with their design of publishing medical papers. They have therefore published, as a part only of the third volume, those papers which had been read before the college with a view to that work. Although we cannot help regretting that an undertaking which could not fail to be attended with public utility, should have met even with a temporary interruption ; yet we can have no doubt that those eminent men, by whom this work has hitherto been principally supported, will take some method of communicating to others the fruits of their daily observation and experience ; and it is much to be

wished that the college as a body may soon again resume this work.

In the first article of the volume before us, we are presented with an anonymous letter written to Dr Heberden, soon after the publication of the second volume of the Medical Transactions. In this letter the author gives a particular account of his own case, which he pronounces to be an angina pectoris, a disease first accurately described by Dr Heberden. The author of this letter had laboured under the disorder for five or six years. He was principally attacked, by it when walking, and always after dinner, or in the evening; never in the morning. His first symptom was a pain in the left arm, which in about half a minute extended across the left-side of his breast, producing faintness and quickness of breathing, and in a short time it went off as suddenly as it had come on. It returned at irregular intervals of a week, a fortnight, or a month; but in general more frequently in the winter than in the summer. As Dr Heberden had formerly mentioned that several of those affected with the angina pectoris, who had fallen within his own knowledge, died suddenly, so the writer of this letter took it for granted that he was to share a similar fate. And
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he concludes the letter by informing the Doctor, that, in case of this event, he had left directions for such an examination of his body as Dr Heberden might imagine could serve to point out the origin of the distemper. A rare instance of good sense and true benevolence. He observes, that he was particularly inclined to suspect a sudden death from peculiar sensations with which he was at times affected. This seemed to him to proceed from an universal pause of the operations of nature within him, continuing for three or four seconds; and when the vital functions were again resumed, a remarkable shock was felt at the heart.

Not three weeks after receiving this letter, intimation was sent to Dr Heberden of the death of the writer, which happened so suddenly that the Doctor had no reason to doubt its having been the effect of the angina pectoris. He was taken ill in the midst of a walk after dinner, and died within the space of half an hour. At the solicitation of Dr Heberden, the body was opened by that eminent anatomist Mr John Hunter; but an accurate examination served only to shew what was not the cause of the disease. No mal-conformation or morbid destruction of any part could

could be discovered. It was, however, remarkable that the blood was no where coagulated; nor did it coagulate even after exposure for two hours to the air; it was of the consistence of thin cream, without any separation of its component parts. The left ventricle of the heart was very strong and thick, and as perfectly empty of blood as if it had been washed.

As this examination served to show that the disease did not arise from inflammation, schirrus, or abscess, Dr Heberden thinks that we need not despair of finding a cure for it. And he concludes, that this cure is not to be sought for in bleeding, purging, and lowering the strength, but rather among those medicines which are usually called nervous and cordial, such as relieve and quiet motions, and invigorate the languishing principle of life.

In the succeeding article we are presented with an account of the dissection of another patient who died of the same affection. This account is written by Dr Wall of Worcester, who has had occasion to see many patients labouring under this disorder. The present, however, is the only opportunity which he ever had of inquiring into the

the cause of the complaint after death. On this dissection, several appearances were discovered which might be esteemed morbid. But the most remarkable was a very perfect ossification of the femilunar valves. To this cause Dr Wall imagines that the disease was here to be referred. But he allows that such indurations may not always be the cause of this affection; and he thinks it difficult to give a satisfactory account of some of the chief symptoms which characterise this disease, without supposing that there occurs a spasmodical affection.

In the third article, we are presented with some cases and remarks relative to the diseases of the bones, by Mr Walker surgeon in Virginia. In a boy who had received a fall on his shoulder some months before, Mr Walker found, that the whole os humeri was a mere shell or tube filled with matter. As the only means of cure was by an aperture for the discharge of the matter, Mr Walker laid open the part from the humerus almost to the elbow, and then applied the trephine to different points successively through the whole length of the wound, taking off the angles between the perforations, so that the bone resembled an os humeri sawed through longitudinally. From this time
every

every thing went on successfully; the os humeri filled up with granulations, and the muscles recovered their former use. Mr Walker farther observes, that he has treated several cases in which a diseased part of the tibia has been intirely separated, and covered over with a bony callous encompassing it, in the form of a tube. In all these, his treatment has been to lay open the tubular part, till he had room enough to extract the old bone; and he affirms, that he never in one instance failed of saving the limb.

In the fourth article, Dr Coyte of Yarmouth relates the consequences of a crown-piece being swallowed by an epileptic man. It was put into his mouth to prevent his tongue from being bit during a violent epileptic fit; the person who held it, by accident, let it slip down his throat. Before a surgeon came, it was so low down in the oesophagus, that it was impossible to get it back again; it remained only, therefore, to push it into the stomach, which was accordingly done. This accident happened on the 11th March 1771. Towards the end of September 1772, he was seized with feverish complaints, which seemed to be chiefly owing to foulness of the stomach and primae viae. For these Dr Coyte ordered him
to

to be vomited by repeated small doses of ipecacuan. He was thus recovering his health; but, on the 26th of November 1772, he found himself very sick, and vomited several times. During this vomiting, he brought up the crown-piece without any pain, after it had lain near twenty months in his stomach. Since that time he has enjoyed a state of perfect health, and never had any return of the epileptic fits.

In the fifth article, Dr Heberden gives an account of the method of preparing the ginseng root in China, as communicated to Mr Burrow by a Mandarin who had resided in that part of Tartary where the ginseng is gathered and cured.

The sixth article is, the history of a case of angina pectoris, with an attempt to investigate the cause of the disease by dissection, by Dr Haygarth of Chester. As we were favoured with the perusal of this ingenious paper in manuscript, our readers may remember that some account was given of it in a former number of our commentaries, which renders any farther observations unnecessary.

The seventh and last article, written by Mr Power surgeon in Polesworth, treats of the use
of

of fermenting cataplasms in mortifications. In a case of mortification of the toes, Mr Power tried, in vain, all the remedies commonly employed. At length the disease, spreading as high as the ankle, and the patient growing tired of all medicines, Mr Power despaired of a cure; but, according to the discoveries of Dr M'Bride, having successfully preserved dead flesh for many months, by keeping it in fixable air, he determined to try what effect it would have by external application in this case. He therefore directed a cataplasm of such ingredients as he thought best adapted to ferment, by the addition of some yeast. For this purpose, flower, honey, and water were mixed into a paste, and set by the fire, till they began to ferment; they were then applied to the parts affected once every day for ten days successively. At the end of that time, Mr Power, to his great surprise, found that the mortification was stopped, and the putrid stench abated. Other dressings were then substituted in their place, and appearances were favourable. But, some time after, the dressings being accidentally rubbed off, and the stump exposed during the night, a fresh mortification was the consequence. This also, after other means had been first

first tried, was stopped by the fermenting cataplasm, and the patient had afterwards a gradual, although slow recovery.

Since the treatment of the above case, Mr Power has employed, with success, fermenting cataplasms in another instance of mortification; and he has used this remedy with advantage in several instances of foul ulcers, where he suspected the absorption of fetid matter to be prejudicial to health.

Our author concludes his observations by proposing it as a query, Whether fixed air be not a weak acid? If this be true, he thinks it cannot appear strange that this, as well as other acids, should resist putrefaction; while, at the same time, as having greater fluidity, it will penetrate farther into soft bodies, and, as having little causticity, it can be more conveniently applied. That it is a weak acid, he thinks probable from its uniting with caustic calcareous earth, and producing those chrystals called dogtooth-spar; from its chrystallizing with caustic, fixed alkalies, and producing mild fixed alkalies; from its chrystallizing with caustic volatile alkalies, and producing mild volatile alkalies; and from its being dispossessed from all these bodies by stronger acids. And he concludes with observing, that,
if

if it be an acid, it is certainly the most universal acid in nature, as such an infinite variety of substances are replete with it.

VII.

Dissertatio Academica de Cancro, quam duplici premio donavit Illustris Academia Scientiarum, Humaniorum Litterarum, et Artium Lugdunensis, in conventu publice habito, die octavo Decembris, anno 1773. Auctore Ber. Peyrilhe, Doctore Medico Tolosano, &c. &c. 8vo, Antwerpiae.

THE essay before us, in the year 1773, gained the prize given by the academy of sciences at Lyons for the best dissertation on cancerous disorders. The author introduces his subject by giving a general view of the plan he intends to pursue. 1st, He proposes to investigate the causes of the cancerous virus. 2d, To determine its real nature. 3d, To explain its effects. 4th, To consider and point out those states of cancerous disorders in which cures may be obtained; and, 5th, To set forth the best method of effecting a cure.

Schirrus

Schirrus and cancer are, by our author, looked upon as one and the same disease, differing only in degree; and, in considering them, he points out four several stages, which, he says, are always very obvious, and may generally be evidently observed. 1st, What he terms *schirrus non exquisitus*, in which the tumour is hard and of a clear shining appearance, sometimes attended with a good deal of pain, but, on other occasions, with little or none, and the colour of its surface differing in no respect from that of the sound skin. 2d, *Schirrus exquisitus*, which consists entirely of a continuation and augmentation of the fore-mentioned symptoms. 3d, *Schirrus malignus*, in which, to the appearances observed in the first and second stages of the disorder, are conjoined pungent, shooting, *burning* pains, which are not constant, but return as it were at stated intervals, and more especially in the evening. And, 4th, *cancer apertus*, in which occur all the most inveterate and troublesome symptoms ever observed in the open or ulcerated states of cancer.

With respect to the proximate cause of cancers, our author endeavours to prove that it consists in an inspissation, or some other disorder of the lymph, which occasioning obstructions in the

small vessels of glands and other parts, at last produces a certain kind or degree of putrescency, and which he considers as the ultimate cause of the cancerous virus. Obstruction of the several small vessels, he observes, must be a certain consequence of many of the exciting and more remote causes of such disorders, as of bruises, &c. and obstruction being once produced, putrescency will in general naturally succeed, from the well known property of all animal fluids to run into the putrid fermentation, when allowed to remain at rest, and in a moderate degree of heat. Many ingenious arguments are made use of in support of the opinion; and, amongst others, it is asserted, that the virus or matter of cancerous tumours, when exposed to the fire, emits a vapour of a real alkaline nature; and, in the farther progress of cancerous diseases, it is even said, that extrication of air, that constant attendant on the putrefactive process, very frequently, if not always, takes place. One case in particular is mentioned, where, soon after the death of the patient, the cancerous tumour was, together with the surrounding cellular substance, laid open, and when it evidently appeared, that considerable quantities of air had been separated. About two drachms
of

of cancerous matter being taken from a diseased mamma, were injected, by means of a syringe, into a small wound made on the back of a dog, and, in a few days, a blackish ichor was discharged from the opening, and the whole body, from the head to the tail, became emphysematous; from all which Mr Peyrilhe concludes it to be at least very probable that the cancerous virus is of a putrid nature.

In the treatment of cancerous disorders, cures, we are told, may sometimes be effected in the first and second stages of the complaint, by a proper use of diluents, emollients, attenuants, &c. But nothing can ever be certainly depended on, except the extirpation of such parts as are diseased. The author has no favourable opinion of cicuta, nor indeed of any other medicine with a view to a cure; but many cases, he observes, occur, in which excision cannot with propriety take place, and wherein considerable relief may be obtained by a due attention to different circumstances, but particularly from the exhibition of antiseptics inwardly, and the application of them externally to the ulcerated parts. This, he observes, is a farther confirmation of his opinion with respect to putrescency acting as the cause of such disorders; and he proposes, as the most

effectual resister and corrector of such a state, the application of fixed air, or Gas sylvestre. After some general remarks with respect to the known antiseptic properties of that fluid, he relates two cases of very bad ulcerated cancers, which were greatly relieved by its being had recourse to. One of them extended over the whole nose, upper lip, and a great part of the cheek; and the other was on a woman's breast. In both, the pains were greatly diminished, and the discharge, from being of the worst kind, was converted into good pus, and all the appearances were so much changed for the better, that expectations were given of even complete cures being obtained. Unluckily, however, both patients were carried off by other diseases, before that could be effected. The air, in both these instances, was obtained from potashes, sometimes with spirit of nitre, and at other times with vinegar. In the cancerous nose it was found necessary to direct the air immediately to the part, and likewise to prevent its entering the lungs, to cover the vessel in which the mixture was contained with a paper funnel, which confined it effectually, and prevented the occurrence of vertigo, which the patient at first was liable to from the want of that precaution.

From

From the evident effects of fixed air in these instances, our author thinks it probable that poultices of carrots, Peruvian bark, and other antiseptics, prove useful in a similar manner, in consequence of considerable quantities of such air being afforded by them. And, on that account, he advises them to be applied, when entering into a state of fermentation. At the same time that these applications are used externally, such a diet should be recommended as easily ferments, and yields the greatest proportion of fixed air; and, with this view, our author recommends, as proper drink, cyder, wort, decoctions of ripe fruits, &c. and, in general, a milk and vegetable diet. As a medicine, bark in large doses is mentioned as the most effectual, together with bitters and elixir of vitriol; and, when laxatives are wanted, tamarinds, with large quantities of honey, are said to be the best.

S E C T II.

Medical Observations.

I.

An Account of the Effects of Electricity in different Diseases, by Dr James Saunders, Physician in Banff.

Introduction to Cases in Electricity.

THE following cases, the last only excepted, were selected from a journal of electrical cases which occurred to me from the 1752 to 1761. About that time, they were read by Dr Cullen in the philosophical society at Edinburgh, and a report of them soon thereafter sent me by Professor Ruffel. They, no doubt, would have been more acceptable to the public at the early period in which they occurred ; but, if the publication of them just now shall tend to confirm experiments

experiments already made, or stir up a farther spirit of inquiry in others, they cannot be entirely useless. I was engaged in these inquiries by a correspondence with Dr St Clair, then professor of the institutes of medicine, on the success of electricity in the case of one Moubray from Stirling, an infirmity-patient. The reports about it were then so vague as could not be depended on; Dr Muschenbroeck reported its effects to be very dangerous, while some Italian and French physicians gave incredible accounts of its safety and success. At that time the Abbe Nollet's account of it seemed to me to deserve most credit, as it was founded on very accurate experiments. Some time thereafter, Dr de Haen recommended it with all the fondness he had shown for new medicines, and published, I believe, very just histories of its success; but he positively asserted, that it could in no case do any harm, when, at the same time, he mentions a patient who died soon after the operation. To this I should very readily have attributed the death, at least in part.

The following are the principal observations I have made as to the manner of applying it, and its effects.

Its identity with thunder and lightning is fully proved. I have often experienced myself, and I have been told by others, of their having the same sensations, in some particular weather, as from electricity.

There are three different ways of applying electricity, different perhaps in kind, but certainly in degree, by insolation, by sparks, or by shocks.

When one stands on the floor in contact with the machine, a constant stream of electric matter is passing through his body; if standing, in like manner, on wax or glass, the natural quantity is accumulated in his body, passing off slowly with the perspirable matter; in this last state, if he be touched by any non-electric body, the stream is directed rapidly to the part touched. When the electric vial is discharged, the stream is then most rapid; and this is certainly the most dangerous manner in which it can be applied; but it can be moderated by the size of the vial, and may be determined to any particular part of the body, as it moves in a direct line between the two wires.

As to its effects, I think they are very general on the system; it increases the pulse, Sauvage
says,

says, to one-sixth above the natural standard. Abbé Noller, by very correct statical experiments, found that it greatly increased perspiration, and that in a ratio rather to the surface of the animal than its weight. It brings on temporary fevers and sweating. This alarmed Mushenbroeck; but some of its medical powers are probably owing to these effects. Slight sparks drawn from the skin mark it with these spots called *fugillationes*. It occasions ecchymosis and extravasation in the brain, which was the case with de Haen's patient; and Van Swieten, in his Commentary de Paralyfi, says, that he observed *fugillationem manifestam* in the dura and pia matter of birds killed by it. Hence, I apprehend, the danger of it in palsies depending on the sensorium commune, joined with a venous plethora, or where the viscera are not found; and hence its so immediate effects in menstrual obstructions. By drawing sparks, and so exciting local inflammation, suppuration is promoted; this I have experienced in those tumors called barley-corns on the eye-lids. It is of great service in cases of obstinate ophthalmia; it restores bulk and fullness to wasted limbs.

Its effects are also remarkable on the moving fibres. It excites the nervous power in the organs

gans of motion and sense; it produces convulsive motion in torpid parts; it relaxes contracted joints, and looses spasms. I have seen it of great service in the chronic rheumatism.

In some cases, its success is very immediate; in others, it requires much time and perseverance; and, to the want of these in the patient and operator, I am apt to think, the failure of success is often to be imputed.

C A S E I.

March 1752. A soldier had, in the preceding winter, contracted a weakness in both legs; he complained of the sensatio formicationis, and of weight in them; they were much wasted, and felt cold, and the benders of the knees were rigid, and greatly contracted. His complaints were imputed to bad quarters, and to the removing an itch by mercurial ointment. He was carried by two men to be electrified, for he could not walk. After the first operation, he sweated profusely for two hours: It was repeated every day for four weeks, in which time the strength, heat, and fullness of his legs were perfectly restored.

C A S E II.

CASE II.

A L A D Y, aged about thirty, had been afflicted for six months with an involuntary motion of her eye-lids, which became so frequent, as to render her eyes of no use. She had been blistered, and used many things with no success. March 1752, she came to be an electrical patient. During the operation, and for two hours after, the tremulous motion was much less; but, in twenty-four hours, it became as bad as ever; its effects became daily of longer duration; and, by continuing the operation every day for six weeks, she had a perfect cure. After being electrified six days, she told me, she was surprised to find that the joint of her elbow, which she could not stretch out for six months before, was become pliable; and, upon inquiry, I found she had then got a fall from her horse, by which her arm and head had been much hurt, and that the involuntary motion of her eye-lids had come on immediately thereafter. After this, many trials with electricity were made upon stiff joints, after old sprains, and with great success.

CASE III.

C A S E III.

A woman, aged about forty, of a tender delicate frame, had a great pain and weakness in one of her arms, which began after a fall she had got from a horse three months before. Upon being four times electrified, she became able to follow her business of mantua-making, without any returns of her complaints, except an aching in it in cold weather, with easterly winds.

C A S E IV.

A young Lady, March 1752, aged fourteen, when fifteen months old, had a tedious fever, in the end of which her right leg was perceived to be incapable of any voluntary motion. Various medicines had been used, by the best advice in the kingdom, with no success. At this period it was not half the length of the other; but she continued to have the full use of her left leg, till about the twelfth year of her age, and could walk about nimbly with crutches. The left leg then began to fail her; it became weak, the joint of the knee shrunk up, it felt cold to herself,

self, and others, and the whole leg was much wasted. She behaved to be carried in a servant's arms from one place to another, as often as it was necessary she should be moved. After being in this state for eighteen months, the leg daily becoming more wasted, she came, in March 1752, to be an electrical patient. After being electrified five or six times, there was a very sensible increase of its heat, and the joint of the knee yielded a little to extension; in ten days she could point her toes to the ground, and, by the help of one staff, and the hold of a servant's arm, she could walk from one room to another; in three weeks thereafter, with the same assistance, she could walk into the garden, or any house in the neighbourhood. She continued the electricity daily for four months, in which time there was a very remarkable increase of the size and fullness of her whole body; the left leg came to its natural heat and just proportion; and now, ten years after the electricity has been laid aside, she continues to be able to walk a little in the above manner from one room to another, though the leg is more shrunk than when the electricity was given up. No change was produced on the right leg.

C A S E V.

C A S E V.

A T the same time a soldier's child of eighteen months old, was brought to be electrified, with a leg cold, wasted, and feeble, and incapable of the least voluntary motion. These complaints had come on after a fever three months before, in the end of which there was a large abscess formed upon the thigh ; this had been opened by a lancet, and a considerable haemorrhage followed ; but it was then healed up. After being electrified every day for four weeks, it became as full and strong as the other.

C A S E VI.

A young lady, aged between twenty and thirty, of a family subject to hysterical complaints, was herself likewise affected with the same disorder, and with uncommon haemorrhages from the stomach, uterus, and nose, brought on by whatever affected the body or mind in any great degree. In November 1751, when her menses flowed, they were suddenly stopped by an alarm from a house being set on fire. She was immediately seized with fainting fits, a clavis hysterica in the left brow,

brow, vomiting of blood, an haemeplegy in that side, and a total loss of sight in that eye. The use of her leg and arm were restored in six weeks, after frequent bleedings, blistering, &c. but her eye remained blind, and the menses had not flowed through the winter. In May 1752, she was brought to be electrified. During the first operation she menstruated; she could that night see objects imperfectly with her left eye; the menses flowed in a due quantity, and left her with the sight of that eye as perfect as the other.

CASE VII.

A young girl, aged nine years, had been for some months afflicted with spasmodic contractions in different parts of her body; sometimes one hand, and sometimes another would be so clenched that no force could open a finger. Upon being electrified, a shock or two loosed the spasms, which returned again in a few hours; she could not be prevailed upon to make many trials, and no cure was effected.

CASE

C A S E VIII.

A gentleman who had been fifteen years afflicted with a gutta serena, upon hearing of Case VI. was desirous to be electrified. It was repeated three or four times, but with no success.

C A S E IX.

A young lady, aged seventeen, of a very delicate tender frame, in November 1760, lost her appetite, and complained of an universal debility over her whole body, but more especially in her right-leg, which in a short time became so weak that she could not walk through the room upon it. The joint of the ankle seemed to be most affected; she complained of its being sometimes pained, but always of the *sensatio formicationis*; it felt cold, and was much wasted. Bark and the cold bath were of great use throughout the winter for recovering her strength; but the right-leg did not recover its proportion with the rest of her body. March 1761, it was proposed to try electricity. After continuing the operation daily for two weeks, the *sensatio formicationis* was greatly removed, the leg became warmer and fuller,

fuller, and she could walk better for two hours after being electrified. These effects became daily of longer duration, and, in ten weeks time, she recovered the full use of her leg. The electrical shocks disordered her whole frame so much, by bringing weariness and palpitation at her breast, that all caution was used to confine them to the leg affected; at the end of ten weeks, the leg which had been weak became fuller and firmer than the other, without any thing like fluxion upon it; but, upon discontinuing the electricity, they became of one size in some weeks thereafter. Remarkable attention was paid to the above case, and the leg measured every day. The young lady now enjoys perfect health.

C A S E X.

A young lady, aged nineteen, had an obstruction for above eighteen months, in which time she had lost her appetite and strength, and was much wasted. Her friends were desirous to have electricity tried, although I had no expectations from it, because of her body being so remarkable low. The shocks at first occasioned a small degree of fluor albus; the operation was

continued ten weeks, during the trials in the former case, in which time she recovered her appetite and spirits, and her body became remarkably full; these advantages continued to improve after the electricity was laid aside; but she did not menstruate until some months thereafter.

C A S E X I .

A servant maid, aged between twenty and thirty years, after a tedious fever, from which she was so much recovered as to spin, and do any easy servile work, complained suddenly of a sensation like cold water pouring down her arm, and immediately lost all voluntary motion in it. She continued in this state three months, without having any relief from blistering, and many other medicines which were prescribed for her. When I first saw her, March 1761, her thumb and fingers were so clenched, that no force could open them; the arm was much wasted, and felt cold. A few electrical shocks made her fingers capable of being opened one by one. These effects continued at first a few hours only; but, after being repeated daily for two weeks, she had the full use of her fingers, and could raise her arm

arm to her head. She would attend no longer, as it gave her pain. At the end of two weeks, she returned again, with her arm much worse than when she went away; but, after using the electricity again for ten days, it was restored once more to its former state, and has continued so ever since (that is, perfectly recovered), though she is reputed to live in a very disorderly manner.

C A S E XII.

A young lady, aged seventeen, during the summer 1762, became affected with obstructio men-
sum. Loss of appetite, and strength soon followed, and a most violent ophthalmia in the left eye. Being at a boarding-school, she continued in this state for several months much neglected. December last, the sound eye came to be affected, when my advice was asked. She complained of anxietas praecordiorum, oppression in her breathing, and acute shooting pains in both eyes; her strength was much wasted, and a swelled finger, and some stuffed glands, gave suspicion of some latent cacochymy. Bleeding and blistering soon removed the inflammation in the eye last affected; but the other could not be opened, nor bear the

least degree of light. Through the winter, she used the bark, drunk afs-milk, and had a peaisſue in her arm; beſides topical applications, its connection with the menſes ſeemed to be pointed out by its periodical increaſe, which was only prevented by timely bleeding. By the above courſe, her body became fuller, and ſhe recovered her ſtrength; and I was deſirous to try the effects of electricity for the obſtruction menſium, judging it ſafer to make cautious trials, than to puſh the cure by ſteel and ſtimulating medicines, in a habit which during the winter and ſpring had ſhown ſuch a diſpoſition to be hectic, and the blood ſo highly phlogiſtic, that I had forbid all animal food or fermented liquors. All medicines had been laid aſide for a week before, and ſhe came to be electrified in March 1762. In three days, during which time ſhe was electrified every day, the inflammation of the eye was evidently better; in four days thereafter, ſhe menſtruated, when under the operation; as there was no reaſon to dread that the menſes would be too copious, the operation was continued daily. The menſes flowed duly; the inflammation in that time was quite removed, and the eye appeared altogether ſound, and could
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bear the light, only the cornea was opaque, but it became every day better. She continued the electricity a week longer.

C A S E XIII.

A woman, aged forty, was electrified for an obstructio mensium of some years standing, and, though the shocks were directed through the abdomen and lower extremities, it did not succeed, but brought on haemorrhages from the nose. Three patients who had laboured under hemiplegies, and partial loss of speech for some years, which had come on after slight apoplectic fits, were three or four times electrified with great caution, but with no success.

C A S E XIV.

A young gentleman broke his thigh-bone by a fall in November 1772. After the accident he got the best assistance, and as soon as possible. In the month of May thereafter he could only walk on stilts; the whole limb was weak, flaccid, and wasted, and the joint of the knee somewhat

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stiff.

stiff. His own account was, that his case had been quite stationary for three months past, in which time he was scarce sensible of any progress in acquiring strength. I then advised his making a trial of electricity. After a few shocks, he was immediately sensible of some advantages ; but these were gone before next morning ; however, by persisting in it every day twice, and increasing the number of shocks to about one hundred and fifty, which were confined to the leg and thigh, he became sensible of a daily increase of strength and fulness in the leg ; so that, at the end of the first week he laid aside one of the stilts, and, in a week, thereafter, the other stilt, at which time he was able to walk with a little assistance from a cane in his hand ; the increase of fullness in the leg was ascertained by a very exact measure ; it is now long since the electricity was laid aside, and he has lost none of these advantages.

A Case

II.

A Case of a very obstinate Ophthalmia, successfully treated by an Emetic, and the consequent use of the Peruvian bark ; by Dr Robert Dobson, Physician at Kirkham.

A YOUNG woman, aged 22 years, of a delicate habit, and rather sedentary life, was, towards the close of the year 1773, seized with a total blindness of her right eye. The attack was sudden. The tunica albuginea, and the whole globe of her eye, were preternaturally enlarged in size, and the former in a great measure covered with deeply inflamed red vessels ; the cornea was distended with a thick viscid matter, in appearance of the consistence of gelly, and the crystalline lens was protruded by its increased magnitude through the pupil, even so far, as to seem to be in contact with the inner surface of the cornea ; and its form was very irregular and unequal. The palpebrae also were enlarged, and, at times, were firmly attached to each other, by means of a thick white glutinous matter ; nor could these be separated without the most violent tortures, arising from the admission of air and light,

at which time a very copious discharge of acrid tears would ensue. Her other eye was similarly affected, though in a less violent manner. This disorder was accompanied with the most excruciating and incessant pains, entirely preventing sleep, and, at times, so insupportably severe, as to induce a deliquium animi. Her pulse was very quick and small, but, even in health, more so than usual. Her belly was bound; her urine free and natural, though sometimes high coloured, and depositing a white viscid sediment, especially when she had lain whole days in bed, and when, thro' excess of pain, she had sweated profusely. Her menses were regular, but commonly more copious and frequent than in most women. In general, she had no great thirst nor sweat, which, however, sometimes issued forth cold and clammy; and this she attributed to the violence of her pain. Her appetite loathed all kinds of food, and her strength was remarkably reduced.

In this situation I found her on January 3. 1774. Upon inquiring whether any obvious cause, or external injury could be assigned for this dreadful concurrence of symptoms, I was told, that, several months ago, she had something of the same complaint, in a milder degree; and she said, that

that she had at that time received a stroke upon her eye from the edge of a door, on suddenly attempting to rush through it ; that she grew better of this in some weeks, by the application of the common means employed for that purpose ; that she had, at times, periodic returns of hemicrania in the left side of her head when in moderate health ; that she had accustomed herself to reading whole nights together by candle-light ; that she had a constant pain in her left side, attended with a dry cough, and occasional throwing up of her victuals, especially breakfast ; she could not, however, at present ascribe any apparent reason for her complaints, except catching cold.

She had been in the state above described for several days, under the directions of an apothecary, by whom she had been very properly blistered behind the ears, and had taken some laxatives previous to my visit. As she peremptorily refused to submit to the use of the lancet, I contented myself with having recourse to copious and repeated abstractions of blood from the temples, by means of leeches. After this, we employed, at proper intervals, cooling purgatives, continued blisters, clysters, antiphlogistic repellent collyria, shaving the head, and washing it with cold water, discutient applications

cations to her temples, pediluvia, occasional opiates, appropriate diet; and alterant nitrated drinks; but all to no purpose; her disease continuing unaltered, nay, even more violent than before. I always perceived the laxatives particularly noxious, as they scarcely ever failed to produce greater pain, more restless nights, and frequently syncope. In the beginning of February, to the original complaints related in the case, were added an intense thirst, cough, total loss of appetite, bad taste in the mouth, an accession of a regularly formed febrile paroxysm every afternoon, and an universal prostration of strength. At this period, I was absent from town about a week, during which time she had taken no medicines whatever; and indeed, from the inefficacy of what she had before tried, she grew weary and doubtful of any medical assistance.

Upon my return, I again, with some reluctance and concern, called upon my fair sufferer, whom I found in no better a condition than I have just mentioned, but amazingly pensive and dejected. To confess the truth, I was now at a loss how to proceed with proper judgment; the fears of supuration of the effused matters, and of consequent total blindness, affected me so much, that,

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at times, I was almost determined to lay aside all further attempts, and to abandon the miserable creature to the consequences of a natural termination. An observation of Dr Hoffman by no means tended to alleviate this piercing anxiety of mind: ‘Comitatur hanc ophthalmiam,’ says he, ‘dolor acerbissimus cum febre, quandoque etiam cum delirio; sequitur suppuratio et humorum effluxus, remanente caecitate perfecta;’ Vid. Hoff. med. rat. p. 4. ophth. Humanity, however, prevailed over these painful, and even barbarous resolves. I then was fully persuaded to overlook the venerable authority of antiquity *, and to venture to upon a practice, however precarious, that now alone suggested itself to be pursued in this desperate dilemma.

Having formerly heard of the utility of emetics in some inveterate cases of ophthalmia, notwithstanding

‘* Post venae sectionem liberaliter institutam, necesse est purgantia injicere; at semper est a vomitoriis abstinendum, in omnibus oculorum affectibus; si qua fides antiquitati. Quare nec ea purgantia in hoc affectu esse usurpanda, quae vomitionem solent inter purgandum excitare tradiderunt.’

Pitcairn, Elem. med. lib. ii. cap. 9.

withstanding the general prejudice entertained against them in congestions of the head, I resolved to make trial of these.

The following practice was, therefore, literally adopted :

℞ Tartari emet. *gr.* iij. solve in julepi salini ℥iij. Capiat cochleare unum hora sexta vespertina, et repetatur omni hora postea, dum moveatur vomitus aut catharsis. Post dosin secundam, si effectus modo dictus non prius eveniat, capiat cochl. ij. et eodem modo pergat, dum efficitur, quod quaeritur. Vomitione finita, devoret pilul. sequentem.

℞ Extracti thebaici *gr.* jss. Ipëcacuanhae pulv. *gr.* ij. syr. sim. q. v. ut fiat pilula una.

℞ Cort. peruv. opt. pulv. tenuiss. ℥j. Gentian. incis. rad. ℥ss. Glycyrrh. ℥ij. Coque ex aq. font. ℔ iij. ad ℔ ij. Colaturae adde Tinct. cort. peruvian. Huxh. ℥ij. vini chalyb. ℥jss. Elix. vitr. acid. ℥iij. M. fumat. coch. iij. ter de die, absente pyrexia.

The dose of the opiate may probably appear very large for a delicate constitution ; but it must
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be considered, that she had, while her exquisite pains and watching continued, repeatedly taken opiates ; whence the laws of habit had rendered them less active, and especially so, when corrected with the ipecacuan. In the morning, I was astonished to find my patient happily and unexpectedly relieved of all her complaints. The emetic had sufficiently operated, and discharged upwards a quantity of viscid bilious matter, and promoted the alvine excretion. She passed a very quiet and composed night, and enjoyed more sleep, and that infinitely more comfortably, than she had done during all her illness. Her pains were now greatly alleviated, the tumour of the eye diminished, the gelatinous state of its humours attenuated, and vision began to be restored. As the second dose of the emetic had excited vomiting, I now ordered a smaller quantity of the remaining solution to be taken every hour that day, excepting the time of the fit, as an alterant and febrifuge ; but she had none, or, at least, an almost imperceptible return only of her febrile paroxysm. The day following, she continued and finished her solution ; and by this time she could perceive objects pretty distinctly, when brought near the eye, whose

whose viscid humours gradually subsided. She now took her decoction according to the directions; and, in a few days, without any sensibly increased evacuation, recovered her former health and strength, which have continued ever since, in a great measure undisturbed by any relapse, excepting on any deviation in the non-naturals, a slight return of the hemicrania. To conclude: As a small degree of opacity still remained on the cornea, I directed her to swallow the following pills:

℞ Calomelanos *gr.* xij. sulphur. aurat. antimonii 3 *fs.* Terantur simul probe in mortario marmorio, dum perfecte laevigentur. Adde opii puri *gr.* iij. conserv. rosar. q. f. ut fiant pilulae xij. quarum deglutiat unam mane et vespere, pro ij. diebus, et tunc temporis mane primo sumat inf. senae comm. q. f. ad alvi solutionem, cum regimine solito. In hac methodo persistat, donec omnes assumerit pilulas.

During the time she employed these, we had the pleasure to observe her sight still farther restored.

III.

III.

The History of an Obstruction of the Rectum at Birth, successfully cured by Operation. By Mr William Wright Surgeon in Jamaica. Communicated to Dr Hope.

ON the 18th of August 1773, I was sent for to see a new-born child at Bounty-hall estate, belonging to John Simpson, Esq; The child was a negro boy, born the preceding day. The midwife had given it repeated doses of castor oil, and, finding that no meconium, or any other feculent matter was discharged, she tried to give it a glyster; but, upon finding that the ivory pipe could only be introduced about a quarter of an inch, she desisted from the attempt. When I came to examine it, I found a firm resistance to a probe, and could plainly discover, with my finger and thumb, a hard tumour, of a round form, nearly as large as a walnut. I concluded this to be a callosity of the rectum; and, although I had never heard of the success of an operation in a similar case, I told the negro parents and the proprietor, that the child had no other chance for life but by an opening being made through this obstruction.

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This was readily agreed to, and I called to my assistance Mr Thomas Steel, an eminent surgeon. He being fully satisfied of the propriety of this hazardous attempt, we accordingly proceeded to the operation.

The child was held in a horizontal posture, with his knees drawn up towards his belly. I first enlarged the external orifice, by cutting through the constrictor ani. My assistant then held the tumour fast, and in the position in which it naturally was. I introduced a directory to the middle and most prominent part of the tumour, and, with a common lancet, I made an incision quite through the resistance, in the direction of the rectum. We had the pleasure of immediately seeing a large quantity of meconium come away, and there was, at the same time, a considerable discharge of wind. The child's belly, which before was very hard and much swelled, soon subsided; the symptomatic fever abated, and a sub-sultus tendinum, which had accompanied it, entirely disappeared. A glyster of milk and sugar was then thrown up, which brought away a considerable quantity of meconium and excrement.

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From this operation the child's most urgent complaints seemed to be removed. But we were farther informed, that, from the time of its birth, it had discharged no urine. Upon examination, we discovered that the prepuce was imperforate. The child was directly circumcised, and the urine then flowed in abundance. We contented ourselves, by dressing, at that time, with a soft roll or dossil of lint, and a poultice externally. And we directed that these, with fomentation to the part, should be used twice a-day.

By the 25th of the month, the tumour in the rectum had intirely collapsed; but the train of threatning symptoms with which the child had before been affected, again made their appearance; and, upon examination, we found, that the parts before divided were again united. In this situation we had recourse to the lancet a second time, and not only made a thorough perforation, but extended the incision quite through the sides of the callosity. In other respects, we proceeded as at first. After this, nothing remarkable occurred in the cure, which was compleated in five weeks, and my patient is now a healthy stout boy.

IV.

An Account of the happy Effects of a Seton in the Side. By Mr Alexander Brymner, Surgeon at Stirling.

A WOMAN, twenty-two years of age, had been affected, from her eighth year, with a cough and difficulty of breathing, which began from a bruise. She had used a variety of medicines, recommended by different persons, during that course of years. But the only one from which she found benefit was squill pills, prescribed by a gentleman in Glasgow, who supposed her case to be dropical, as her whole body was swelled.

When she applied to me, besides the above symptoms, she was at times afflicted with sickness, and vomiting of blood mixed with pus; and, at other times, she spat up large quantities of gross matter along with the cough. After prescribing some medicines, I advised a seton in her side, which drew off a large quantity of matter. After it had run for some time, the patient was greatly relieved. I then ordered her to drink salt-water; for which purpose she was conveyed to Airth in

a cart. After staying there ten days, she went on foot from thence to Leith in one day, although formerly she had not been able to travel two miles in a day. For some years before the issue was put into her side, she had such a difficult breathing, that the doors and windows were obliged to be kept open for her night and day.

After staying some time at Leith, where she also used the salt-water, she returned home in such a hopeful condition, that she wrought the ordinary work of the house, which she had never done before, and the seton was dried up.

I then advised a seton to be put into her other side; but she would not agree to it, though pressed by her friends. Some time after this, she was seized with a pleuritic fever, which was then epidemic in the country. Of this she died after one day's illness; but her desire before her death was that I might be sent for to open her body; intimation of which was accordingly sent me. In laying open the abdomen, I was surprised to find the teguments four inches in thickness before I got at the muscles. There was nothing remarkable in the abdomen, except that the omentum was as thin as in a dropsy. On raising the ster-

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num, I was fully convinced of the good effects of the seton. It had been applied to the right-side, and accordingly the right lobe of the lungs was in a pretty sound state, quite free from all purulency; whereas the left lobe was full of purulent matter, which issued from it (on pressure) as from a sponge when squeezed.

On the pleura of the left-side there were symptoms of inflammation, which had probably been the cause of her death, as she complained of a pain in her left-side when first seized.

V.

Two Cases of Dislocation of the Femur, with an Account of the Method of Reduction. By Mr Thomas Anderson Surgeon in Leith.

I.

IN September 1772, Mr Bruce surgeon at Musselburgh sent to me, desiring I would meet him at Lord Abercorn's coal-work, one of the colliers having dislocated his left thigh-bone. I there found Messrs Bruce and Stewart surgeons in Musselburgh, and Messrs Simpson and Clarkson surgeons in Dalkeith, who were just begun to attempt

tempt the reduction by pullies. With these several trials were made ; but the lacque round the knee slipping, it was taken off. By this means I had an opportunity of examining it. I found the left-knee protruding three or four inches further than the right, and the one could not be brought within eight or ten inches of the other, the foot being turned out. When it was moved upwards and downwards, if done gently, he found little pain ; but I observed, when it was nearly, or altogether extended, the head of the bone became fixed. And he complained more when it was in that situation, if any rotatory motion was attempted with the femur, which gave him no uneasiness when the thigh was brought up towards the abdomen. From the above appearance, it was certain the head of the bone was displaced from the acetabulum, and lodged downwards and inwards, in the large foramen of the ischium and pubis. I was convinced that attempting the reduction, in the common method, with the thigh extended, was improper, as the muscles were all put upon the stretch, the action of which is perhaps sufficient to overbalance any extension we can apply. But, by bringing the thigh to near a right angle with the

trunk, by which the muscles would be greatly relaxed, I imagined that the reduction might more readily take place, and with much less extension.

When I made this examination, he was lying on a table on his back. I raised the thigh to about a right angle with the trunk, and, with my right-hand at the ham, laid hold of the thigh, and made what extension I could. From this trial I found I could dislodge the head of the bone. At the same time that I did this, with my left-hand at the head and inside of the thigh, I pressed it towards the acetabulum, while my right gave the femur a little circular turn, so as to bring the rotula inwards to its natural situation; and, upon the second attempt, it went in with a snap observable to the gentlemen standing round, but more so to the poor man, who instantly cried out he was well and free from pain. His knees could then be brought together; the legs were of the same length, and the foot in its natural situation. The knees were kept together for some time, with a roller, to confine the motion of the thigh; and, in three weeks, he was at his work, without the least stiffness in the joint.

A boy, eight years old, of a strong healthy constitution, while he happened to be carried on his sister's back, lost the hold he had of her neck, and fell to the left-side. She, however, held him by the legs, which were round her waist, so as to occasion considerable stress to the parts. He was carried home, and complained of the left thigh and haunch, which he said was from a fall from his sister's back. The parents being poor, and imagining it to be only bruised, were eighteen days before they called any assistance. At this time I found him lying in bed on his back, the fore part of the femur turned quite in, the knee lying on the right thigh, was fully four inches shorter, the leg turned out, and considerable tension and swelling on the hip. From the appearance, I suspected a fracture at the neck of the bone; but, on examining it, was soon convinced of the dislocation, and that the head of the bone was lodged upwards and backwards from the acetabulum, in the concave part of the ilium where it joins the ischium. The smallest attempt to carry the thigh outwards from the position in

which it lay, gave him the most exquisite pain, and he could only allow it to be gently moved upwards, if, at the same time, the knee was kept over to the right-side. From the motion made to discover its situation, he complained so much, that the reduction was not attempted at that time. The hip was fomented, rubbed with camphorated oil, and a poultice applied for that night. Next forenoon I called on him with two young gentlemen; he was placed across the bed, the thigh raised so as to form an acute angle with the trunk. In this situation the knee lay considerably over to the right-side, and the leg was turned much outwards. He was kept down by an assistant, while I laid hold, with both my hands, above the knee, at the same time standing upon the side of the bed, and pulling upwards, I found I could move the head of the bone from the place where it was lodged; and, upon making considerable extension, with my left-hand I laid hold of the middle of the leg, which I brought inwards. By this the femur made a circular turn, which directed its head towards the acetabulum, into which it went with a sensible noise. The boy immediately cried out, that he was well, and could al-

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low the thigh to be moved gently in any direction. The thighs were kept together for two weeks with a bandage, and, in three weeks, he could walk ; but he complained of stiffness in the joint for a week or two afterwards.

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S E C T III.

Medical News.

WE formerly presented our readers with some ingenious observations by Mr John Hunter of London, concerning the puerperal fever, and the inflammation of cavities in general; we have now the pleasure of being able to communicate to them his remarks on the inflammation of veins, which are, in many respects, connected with the observations before delivered.

From the causes producing the inflammation of other cavities, from the disposition in inflammation, when it has once laid hold of a cavity, to spread over the whole of it, and from the usual terminations of such inflammation, mentioned in the account of the inflammation of the peritoneum, Mr Hunter also explains the many
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bad consequences which sometimes arise from bleeding in veins.

By some, the mischief has been supposed to arise from pricking a nerve; but nerves, Mr Hunter maintains, must be pricked in many of the common operations of surgery, yet such serious consequences do not follow. Besides this, he farther observes, that the nerves, which are liable to be wounded in bleeding, are small and unimportant.

Others have supposed, that those troublesome symptoms, which are sometimes the consequences of blood-letting, have arisen from pricking a tendon, or its aponeurosis; but Mr Hunter observes, that, unluckily for such physiologists, tendons, in other places, are often pricked and torn with very little inconvenience; even the tendo achilles, the largest tendon in the body, is frequently broken, without any such symptoms as sometimes arise from blood-letting. Besides this, the accidents from bleeding happen as frequently when a person has been bled in a vein which has no tendon near it, as when there was reason to suspect that a tendon might be wounded. It as often happens that a swelled arm is the consequence of bleeding in the cephalic, or cephalic median

median vein, as of bleeding in the basilic, or basilic median.

By a third set of physiologists, the constitution has been blamed; and the symptoms have been said to arise only in bad habits. But here also experience is on the opposite side; and a person who has before enjoyed the most perfect health, is just as liable to the accidents from bleeding, as one of a weakened or crazy constitution. And it may even be observed, that, where such accidents have happened, the patient has been bled in the opposite arm, without any inconvenience.

From these considerations, then, Mr Hunter was led to reject the opinions formerly entertained respecting the cause of such complaints. He was first led to propose another conjecture, chiefly from observing what happens to horses. It is no uncommon thing for hostlers, from an unnecessary or ill-judged care, to bleed them in the neck, even when in perfect health. In several cases of this nature, Mr Hunter had observed, that the neck swelled, and the animal died; he was led, therefore, to investigate the cause of the complaint by dissection. On accurate examination, he found, that the cavity of the vein was inflamed,

flamed, and that the inflammation had spread along its internal surface to the chest, sometimes even to the heart itself. Besides these appearances in horses, he had also, in the human subject, opened abscesses after blood-letting, which ran in the course of the large veins, and which seemed, at least, to be formed in their cavities. These observations led him to suspect, that the internal surfaces of veins, like those of other cavities in the body, might, in certain circumstances, be inflamed.

From attentive examination of abscesses of the lungs, he found many appearances which served to confirm this supposition. There he often observed the internal surfaces of the veins, leading from such abscesses, not only in an inflamed state, but in many places suppurated; and he could even distinctly trace the progress and termination both of the inflammation and suppuration. He always found them extending along the coats of the veins to some distance from the abscess all around. He had observed the same appearances also on examining the state of the veins in limbs, where a high degree of inflammation had taken place after amputation; and he was farther persuaded, that the inflammation, in many cases, extended

tended so rapidly, and to so great a distance from the stump, only in consequence of its having seized on the cavities of the veins.

After these observations, Mr Hunter had no longer any hesitation in giving it as his opinion, that the mischief which often arises from bleeding is owing to an inflammation of the cavity of the vein. But, besides these proofs, a case occurred to him at St George's hospital during the course of last winter, which, he thinks, puts this matter beyond all doubt. A man was brought into the hospital with an inflammation of his right arm, in consequence of his having been bled in the basilic vein; after he had continued in the house about eight days, he died suddenly. He was not Mr Hunter's patient; nor was the surgeon whose patient he was permitted to take off the arm; but Mr Hunter begged to have the parts principally diseased. Accordingly the vein, with its neighbouring artery and nerve, and a considerable portion of the surrounding parts, were taken out, from the middle of the fore-arm to the axilla; these parts were immediately sent him; and, upon examination, he found, as he had suspected, the cavity of the vein inflamed; and this inflammation extended from the puncture
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which had been made by the lancet in blood-letting, as high as the axilla; it went also some way downwards below the puncture. About the middle of the arm, the vein had suppurated; and, from the ulceration or absorption of parts which attends abscesses, the vein was divided into two, and each extremity, like the internal surface of the abscess, was irregular and jagged.

The orifice where the lancet had been introduced was yet open, and a probe could easily be made to pass through it; but the coats of the vein were very much thickened, and its internal surface, for some space, both above and below the orifice, was so covered with coagulable lymph, that the cavity there was impervious to the circulating blood; and in some places there was a perfect adhesion. Some of the branches of the vein were also plugged up by the lymph being coagulated; even the coats of the artery were affected, in consequence of its vicinity to the diseased part.

There was a free passage from the cavity of the abscess into the axillary vein; and Mr Hunter suspected that the cause of the patient's sudden death might be owing to some accidental change in the position of the arm, by which the purulent

lent matter would be mixed with the reflux blood, and immediately carried to the heart. This conjecture, Mr Hunter thinks, is confirmed by some experiments which he formerly made on dogs. He found, that they were killed even by a few drops of milk being injected into their veins; and a small quantity of pus, when injected into the veins of a pregnant bitch, although it did not kill the animal, made her miscarry.

In the dissections of the horses, which were formerly mentioned, Mr Hunter had traced the inflammation to the heart itself; and to this he had ascribed the death. But, in the case related above, the inflammation had stopt before reaching the axillary vein, so that the death must have been owing to some other cause.

In some cases, it happens that, after an inflammation has run along the cavity of a vein for its whole length, the coats of the vein unite at different places. This adhesion prevents the farther progress of the inflammation in these cases; but the intermediate spaces go into suppuration, and form distinct abscesses. In this manner, Mr Hunter observes, that he has had occasion to open a chain of abscesses, in the course of the vena saphena, from the top of the foot all the way to the groin;

groin; and there the inflammation arose from a wound on the top of the foot, by which he thinks it probable, that the cavity of the vein had been exposed.

Mr Hunter is disposed to think, that the principal cause producing the inflammation of a vein after bleeding, is the want of disposition to heal. This may at first arise either from its being exposed, or in consequence of the lips of the orifice in the skin not being properly brought together. If an injury be done to one part of a cavity, the stimulus, which arises from its being an imperfect cavity, goes through the whole. Hence it inflames and suppurates. In order to prevent mischief, Mr Hunter advises, that the orifice should be closed as accurately as possible; and he recommends that the orifice in the skin should be drawn to one side of that in the vein, so as to make the skin do the office of a valve to the venal orifice.

He finds, that, where inflammation has attacked the cavity of a vein in consequence of blood-letting, the sides of the vein sometimes adhere, and thus the inflammation is prevented from spreading farther. But the cavity of the vein at that place is for ever obliterated; and from this

circumstance he accounts for surgeons being so often disappointed in attempting to fetch blood from a vein that has often been struck before.

* * * *

A pamphlet has lately been published at Paris, entitled, *Précis du Traitement contre les Ténia ou Vers Solitaires, pratique à Morat en Suisse, examiné et éprouvé à Paris. Publié par ordre du Roi.* This account of the cure of the tenia is composed and signed by M. Laffone, Macquer, de la Motte, de Jussieu, et Carburi. They introduce the subject by observing, that his majesty was very desirous of acquiring a remedy, much celebrated for the cure of the tenia, which Madame Nouffer, after the death of her husband, had used during the space of twenty years, with a great number of patients, and, in every case, with the most happy and expeditious effects. The gentlemen mentioned above, therefore, were ordered, by the king's ministers, to make a trial of this medicine; and, having from that trial found it entitled to the character which it had acquired, they were directed to publish an account of it.

In this account they begin by mentioning the necessary preparation. With this view, they order

der that the patient should take for supper panada, prepared in the following manner. Take a pound and a half of water, three ounces of butter, two ounces of bread, with a sufficient quantity of salt for seasoning, and dress it over a good fire till it forms a proper panada. About a quarter of an hour after this, the patient may take two biscuits, and a glass of wine or water. If his belly be bound, he must have, half an hour after supper, an injection, prepared, by boiling in a quart of water, a small quantity of mallows, or of marshmallows; adding, to the strained liquor, a little salt, and about two ounces of olive oil.

After this account of the preparation, they next proceed to relate the treatment. Next morning, at the distance of eight or nine hours after supper the preceding evening, the patient must get, in bed, the following specific. Take two or three drams of the root of the male fern, the *felix non ramosa dentata* of C. Bauhin, the *polypodium filix mas* of Linnæus. Let this root be reduced to a fine powder, and mixed with six or four ounces of distilled water of fern, or of common water; let the patient swallow the whole of it, and let him take afterwards, from the same ves-

fel, two or three draughts of water, so that none of the powder may remain, either in the glass or in his mouth. For infants, the dose of the powder must be reduced to one dram. If the patient, after taking this powder, has any nausea, he may either chew, or wash his mouth with any thing that is agreeable to him; but he must take care to swallow nothing. And, if any tendency to vomiting should occur, he must use his utmost endeavours to retain the powder. If he should vomit the whole, or any part of it, he must take a second dose, as soon as the nausea has ceased.

Two hours after the patient has taken the powder, he must rise out of bed, and the following bolus must be given him. Take of the panpacea mercurii, and dry resin of scammony or of jalla, each twelve grains; of gamboge five grains; reduce the three articles to a very fine powder, and form the whole into a bolus with any conserve. With patients accustomed to very strong purgatives, and with those easily operated upon, the dose must be regulated according to the prudence of the physician. Even the dose mentioned above may be divided, and the one half given three hours after the other, if the first do not operate.

operate. Immediately after the bolus, the patient must get a drink or two of weak green tea; and, when its operation begins, this must be repeated, from time to time, till the worm be evacuated. After this, the patient may take boiled meat or soup; he must dine soberly, and conduct himself for the rest of the day as is common when under a course of medicine. If the bolus shall not operate, he must take six or eight drams of purging salt, dissolved in a sufficient quantity of boiling water.

If the worm should not come away in a bundle, but in the form of a thread, the patient must not attempt to draw it away, but sit above the close-stool, and drink weak tea a little warm. If it should hang long without falling, and the purgative not operate sufficiently, the patient must take some purging salt, in the manner above directed, and sit patiently upon the close-stool till it does fall. When the worm does not appear before dinner, the patient may dine as usual; it rarely happens that it comes away in the afternoon. When it does not appear through the whole day, which almost never happens, unless when the medicines are not properly retained, the patient must

sup in the same manner as the preceding evening. And, if it does not appear in the night, he must take, next morning, the same dose of the powder as before, and, two or three hours afterwards, six or eight drams of purging salt.

It often happens that the patient, immediately before discharging the worm, becomes very faint, which should give him no concern, as it soon ceases; he must only be kept quiet, and breathe in the steams of good vinegar.

If the patient discharge the worm before taking the purgative, he must take but the half, or two-thirds of the bolus, or a dose of purging salts only. And if, after having discharged one tenia in this manner, it appears that a second still remains, the same treatment must again be repeated a few days after.

This treatment, the gentlemen who drew up the memoir observe, has constantly had a happy effect in a few hours; and they have tried it with five different patients. The worm against which it is recommended is the tenia prima of Platerus, the tenia vulgaris of Linnaeus. It has not been equally successful against the vermis cucurbitinus, the tenia secunda of Platerus, the tenia osculis
marginalibus

marginalibus solitariis of Linnaeus. The same gentlemen to whom we are indebted for this publication, promise, in a short time, to communicate some farther observations to the public, on this subject.

Since this number of the Commentaries was put to the press, we have had the pleasure of receiving the publication above alluded to. In this publication, the five cases in which the remedy was tried, under the direction of the gentlemen mentioned above, are related at full length. We propose to present our readers with an analysis of it in our next number.

* * * *

Dr Rainey of Dublin, in a letter to Dr Duncan, gives the following observations respecting the influence of the measles and small-pox on each other.

“In the third number of the Medical Commentaries of Edinburgh, mention is made of measles and small-pox being conjoined in the same patient. And it is there observed, that the progress of the latter was retarded by the appearance of the former. A very different event took

F f 4 place

place here, as you will see by the following extracts from some papers inserted in the memoirs of our medical society in this city.

“In the year 1769, Mr Samuel Croker King, then surgeon to the Foundling Hospital at Dublin, inoculated, in that hospital, forty-three children. On the fourth or fifth day after inoculation, sixteen of the boys fell ill of the measles, from which they recovered easily in the usual time. This accident, although alarming, did not retard nor alter the progress of the small-pox; for the eruptive fever came on regularly; and, at the time expected, he had the pleasure of seeing the pustules make their appearance as mildly in those who were but just recovered from the measles, as in those who were not affected with them. Two of the girls had, at one and the same time, both measles and small-pox, and the eruptions could very easily be distinguished from each other. One of these girls, when the measles went off, was so much distressed in her breathing, that he was obliged to have recourse to bleeding, blistering, and other means of relieving it. These remedies had soon the desired effect; but they seemed to have no influence upon the small-pox, which turned out of a very mild kind.

In

In the year following, of eighty-eight children who were inoculated by the same gentleman, one boy, on the third day from the inoculation, was seized with the measles, from which he recovered in the usual time; and, on the 11th day, a mild small-pox made its appearance. On the 15th day from the operation, he was perfectly well. On another boy, the chicken-pox came out on the seventh day, dried off in two or three days, and, after that, he went through the several stages of the small-pox in a very mild way.

* * * *

On Monday the 14th of January, died at his seat of Hawk-hill, near Edinburgh, Andrew Pringle, Esq; of Alemore, one of the senators of the college of justice in Scotland. While he was eminent for commanding eloquence, discerning penetration, and unimpeached integrity as a judge, he deserves to be commemorated as one of the most distinguished philosophers his country has of late produced. He erected an observatory for his own private use near his country-seat, and he found singular pleasure in dedicating, to the improvement of useful knowledge, his hours of leisure from the duties of office. And, while he

himself

himself cultivated philosophy with no less industry than success, he took every opportunity of supporting and encouraging others in the same pursuits. From the patronage which he afforded to learning, and learned men, he will long be remembered with gratitude, and live in the esteem of all who knew him.

On Monday the 27th of November 1775, the foundation stone of a building for the Royal College of Physicians in Edinburgh, was laid in an area in the New-town, by Dr Cullen, then president of the college, attended by the other members of that society residing in Edinburgh. It is the opinion of the best judges in architecture, who have examined the plan of this building, that it will be an elegant and magnificent fabric.

Besides the money which will be allowed for this work from the funds of the college, voluntary contributions have been received from many of its members, and from several other gentlemen. The magistrates and town-council of Edinburgh have granted the area upon which it is to stand, without demanding any premium for it; his Grace the Duke of Buccleugh has given one hundred pounds towards defraying the expence of it ;

it; the same sum has been received from Dr Fothergill of London; and the members of the college, residing in Edinburgh, have each subscribed from five to fifty guineas, according to their abilities or inclination. Contributions have also been received from most of the members residing in other parts of Britain.

* * * *

On Monday the 2d of October, Dr John Stedman resigned the office of physician to the Royal Infirmary at Edinburgh, as he found that the state of his health put it out of his power to attend to the duties of it with that punctuality which he reckoned necessary. But the managers of the hospital, as a testimony of their regard and esteem, re-elected him to that office, in conjunction with Dr James Hamilton, who now acts in the capacity of physician to the hospital.

* * * *

The inaugural dissertation, printed about two years ago, by Dr James Gregory, when he obtained the degree of doctor of medicine from the university of Edinburgh, is again in the press at that place, and will be published in a few days.

This

This second edition is, we are told, to be improved by many corrections and additions by the author himself. It treats de morbis coeli mutatione medendis, a practice at present so frequently recommended by the physicians of this country, that we are inclined to think, a translation of this essay into our native language might be of considerable utility.

* * * *

The inaugural dissertation, printed at Edinburgh in the year 1768, by Dr James Lind, which treats de febre remittente putrida paludum, quae grassabatur in Bengalia, A. D. 1762, contains so many curious and important observations, that it was, some years ago, translated into English, and published by a bookseller in London. But, as the translator seems to have been unacquainted with the subject, the meaning of the author is in many places mistaken, and the translation, upon the whole, is by no means such as could be wished. It is with pleasure we can inform our readers, that the author himself has been prevailed upon to undertake the correction of it. This corrected edition of it, which is now in the press at Edinburgh, and which will soon be published, contains also several important observations by way

of

of notes, which were neither in the original dissertation, nor in the former translation.

* * * *

On Tuesday the 6th of February, Dr Daniel Rutherford, and Dr James Gregory, were admitted Licentiates of the Royal College of Physicians in Edinburgh.

* * * *

On Monday the 6th of May, the following summer-courses of medical lectures will be begun at Edinburgh.

At eight o'clock in the morning, Dr Hope will begin a course of lectures on botany, at the Royal botanic garden.

At ten o'clock in the forenoon, Dr Young will begin a course of lectures on midwifery, at his teaching-room in the college.

And at four o'clock in the afternoon, Dr Duncan will begin a course of clinical lectures at the Royal Infirmary.

S E C T.

S E C T. IV.

List of New Books.

Observations historical, critical, and medical, on the wines of the antients, and on the analogy between them and modern wines; with general observations on the principles and qualities of water, and, in particular, on those of Bath; by Sir Edward Barry, Bart. Fellow of the Royal College of Physicians, and of the Royal Society, 4to, London.

Of the improvement of medicine in London, on the basis of public good. 8vo, London.

Observations on the art of brewing malt-liquors; by a practical brewer. 8vo, London.

A treatise on the nervous sciatica, or nervous hip-gout, illustrated with copperplates; translated from the original of Cotunnus. 8vo, London.

Praelectiones

Praelectiones medicae ex Cronii instituto annis 1774 et 1765. et oratio anniversaria ex Harveii instituto die Octobris 18va anni 1775, habitae in theatro collegii regii medicorum Londinensium. A. Donaldo Monro, M.D. medico ad exercitum, et ad nosocomium Sancti Georgii, ac collegii regii medicorum, et regiae societatis socio. 8vo, Londini.

Elements of the practice of midwifery; by Alexander Hamilton, surgeon and teacher of midwifery in Edinburgh. 8vo, London.

A short description of the human muscles, chiefly as they appear on dissection; together with their several uses, and the synonyma of the best authors; by John Innes. 12mo, Edinburgh.

Nymphomania, or a dissertation concerning the furor uterinus, clearly and methodically explaining the beginning, progress, and different causes of that horrible distemper. To which are added, the methods of treating the several stages of it, and the most approved remedies. Written originally in French, by M. D. T. de Bienville, M. D. and translated by Edward Sloane Wilmot, M. D. 8vo, London.

A discourse on the attraction of mountains, delivered at the anniversary of the Royal Society, November 30th 1775; by Sir John Pringle president, published by their order. 4to, London.

Infancy, a poem, book the third; by Hugh Downman, M. D. 4to, London,

An account of puerperal fevers, as they appear in Derby-shire, and some of the counties adjacent; by William Butter, M. D. Fellow of the Royal College of Physicians in Edinburgh.

Elements of Botany, illustrated with fourteen copper-plates. By Hugh Rose. 8vo, London.

Strictures on the Gout, with a practical advice to gouty people. By Samuel Wood, a recovered arthritic. 8vo, London.

An Essay on the Uterine Haemorrhage, which precedes the delivery of the full grown foetus. Illustrated with cases. By Edward Rigby. 8vo, London.

A Treatise on the medical qualities of mercury in three parts. I. On the natural properties of mercury, and its operations on the animal oecomy. II. On the principal preparations of mercury. III. On the medical qualities of mercury
in

in various diseases. By N. D. Falk, M. D. 12mo. London.

Histoire de la Chirurgie depuis son origine jusqu'à nos jours. Par M. Dujardin, du College et de la l'Academie Royale de Chirurgie. 4to. Paris.

Avis aux Femmes anciennes et encouché, traduit de l'Anglois de Charles White, membre du College de Chirurgie de Londres, &c. 12mo. Paris.

Connoissance pratique des Medicamens les plus salutaires, simples et composés, officinaux et extemporanes, &c. Par M. Lewis ; ouvrage traduit de l'Anglois. 8vo. 3 vol. Paris.

Differtation sur le nature, l'usage, et l'abu des eaux thermales de Bagnols en Gevaudan, par M. Bonnel de la Brageresse le fils, M. D. 8vo. Paris.

Memoire sur la maladie epizootique regnante, présenté au College des Medecins agregés de Bordeaux. Par M. Doazan, M. D. 8vo. Bordeaux.

Discours prononcé aux ecoles de chirurgie, par M. Sue le jeune, prevot du College. 8vo. Paris.

Nouvelle table des articles contenus dans les volumes de l'Academie Royale des Sciences depuis 1665, jusqu'en 1770. Par M. l'Abbe Rozier, chevalier de l'Eglise de Lyon, &c. 4to. Paris.

Avis au peuple sur les asphyxies ou morts apparentes et subites, contenant les moyens de les prevenir et d'y remedier, avec la description d'une nouvelle boite fumigatoire portative. Publié par ordre du government, par J. J. Gardane, Docteur regent de la Faculté de Medecine. 12mo. Paris.

Dietrich Wessel Linden vier chemische, medicinische abhandlungen; *i. e.* Four chemico-medical dissertations, by Dietrich Wessel Linden. 8vo. Leipfick.

Jo. Gottfr. Pietsch wahre quelle und materielle urasche vom podagra und allen gichtigen krankheiten uberhaupt, nebst vernumflig und erfahrungsmassig darauf gegrundeten cur.; *i. e.* The true source and material cause of the gout, and all arthritic complaints; together with the method of cure, founded on reasoning and experience. 8vo. Halle.

Primae lineae pharmaciae in usum praelectionum, Suecico idiomate editae ab Andrea Joanne Retzio, jam Latine conversae. 8vo. Gottingiae.

Jo.

Jo. Jac. Wells Rechtfertigung der Blackische lehre von der fixirten luft, gegen die von Herrn Wiegleb, apotheker in Langensalza; *i. e.* A defence of Dr Black's doctrine of fixed air, against the objections of Mr Wiegleb apothecary at Langensalza. 8vo. Wien.

Differtationes medicae quas ex auctoritate reverendi admodum viri Gulielmi Robertson, SS. T. P. academiae Edinburgenae praefecti; nec non amplissimi senatus academici consensu, et nobilissimae facultatis medicae decreto, pro gradu doctoratus, summisque in medicina honoribus et privilegiis rite et legitime consequendis, eruditorum examini subjecerunt, Prid. Id. Sept. 1775,

Patricius Dugud, Scoto-Britannus, De caloris animalium causa.

Thomas Blackburne, Anglus, De medici institutis.

Bartholomeus Thomas, Hibernus, De peste.

Josephus Camplin, Anglo-Britannus, De arthritide.

Thomas Gibbons, Britannus, De mulierum mammis.

Gulielmus Woodville, Anglo-Britannus, De causis irritabilitatem fibrarum motricium augentibus.

Ricardus Cowling, Britannus, De rheumatismo.

Gulielmus Clapham, Anglo-Britannus, De hæmorrhagiis.

Fotherley Pannell, Anglo-Britannus, De scrophula.

Sylas Neville, Britannus, De prognosi in febribus.

Jacobus Theobaldus Payne, Neviensis, De rheumatismo acuto.

CONTENTS.

BOOKS,

<i>Pott, Percival, Chirurgical observations.</i>	343
<i>Portal, M. Observations sur la structure des parties de la generation de la femme.</i>	351
<i>Le Roy, M. Reflexions sur les areometres</i>	358
<i>Portal, M. Remarques sur la structure du canal thoracique.</i>	363
<i>Hunter, J. De hominum varietatibus.</i>	367
<i>Medical transactions.</i>	379
<i>Peyrilhe, Ber. Dissertatio de cancro.</i>	388

MEDICAL OBSERVATIONS.

<i>An account of the effects of electricity in different diseases. By Dr James Saunders, Physician in Banff.</i>	394
<i>A case of a very obstinate ophthalmia successfully treated by an emetic, and the consequent use of the Peruvian bark. By Dr Robert Dobson, Physician at Thirkham.</i>	411
<i>The history of an obstruction of the rectum at birth, successfully cured by operation. By Mr William Wright, Surgeon in Jamaica.</i>	419
<i>An account of the happy effects of a seton in the side. By Mr Alexander Brymner, Surgeon at Stirling.</i>	422
<i>Two cases of dislocation of the femur, with an account of the method of reduction. By Mr Thomas Anderson, Surgeon in Leith.</i>	424
MEDICAL NEWS.	430
LIST NEW OF BOOKS.	450

I N D E X.

A.

	Pag.
Aborbent power of veins, arguments for it disproved	42
Actual cautery, its use in medicine, by the Chinese	216
Air receptacles communicating with the lungs of birds, conjectures concerning use of	57
Air receptacles in bones of birds, account of	57
Alexander, Mr John, history of the discharge of water from the vagina	187
Anderson, Mr Thomas, histories of dislocation of the femur	424
Angina pectoris, case of, by Dr Percival	181
Areometres, reflexions sur	358
Atmosphere, inquiries concerning	25

B.

Bathie, Mr Archibald, history of the rabies canina	290
Bell, Mr Benjamin, history of the vertebrae being dissolved	82
Birds, account of air receptacles in their bones	53
Blood, red particles of, account of their structure	90
Blood, an argument for its possessing the living principle	327
Blood, red particles of, where formed	67
Blood-letting, cause of the accidents from	430
Bordeu, M. traite de medecine	137
Bouvet, M. account of a stone in the uterus	58

Brain,

I N D E X.

459

Pag.

Brain and nerves, structure not fibrous	125
Bruce, Mr, account of his drawings	329
Brymner, Alexander, account of the happy effects of a seton	422
Buccleugh, Duke of, his donation to the college of physicians at Edinburgh	446
Buffon, Mr, his account of the drawings of Mr Bruce	328

C.

Calces of metals, additional weight from air	171
Camper, M. advantages de l'inoculation	108
Camphor, its use in nervous oppression	133
Cancer of the scrotum, description of	349
Cancer, different kinds of	389
Cataract, method of cure by operation	345
Childbed fevers, essay on	124
Childbed fevers, means of preventing	135
Cochrane, Mr Thomas, observations on cold bath- ing in Tetanus	183
Cock, capable of breathing through a canula intro- duced into his belly	56
Cochrane, Mr Thomas, account of insects discharged from the uterus	86
Cold bathing, use in Tetanus	183
Colour of human species, differences in	369
Contributions for erecting a building for the medical society, committee for collecting	218
Convulsions, causes of	21
Convulsions induced by grief	316

G g 4

Coyte,

	Pag.
Coyte, Dr, account of consequences from swallow- ing a crown-piece	284
Cullen, Dr William, observations on the recovery of drowned persons	244
Cuprum ammoniacale, observations on	191

D.

Deafness cured by salivation	80
Decoction of Nightshade, method of preparing	16
—————diseases in which useful	17
Dispensary in London, memoirs of	280
Dobson, Dr Robert, account of the effects of an emetic in ophthalmia	411
Doigts, confirmations monstrueuse de	168
Dropfy, cause of	35
Drowned persons, method of recovery	243
Duchadoz, F. de Proctostenia	111
Duncan, Dr Andrew, clinical lectures	449

E.

Eau, memoire sur le nature de	158
Electricity, account of the effects of	394
Emetic, its effects in ophthalmia	415
Evacuations by the skin, their use in puerperal fevers	132
Exhalant vessels, influence on contents	35
Exhalations, their properties	35
Eye-brow, anomalous tumour on, extirpated	313

F

Femur, dislocation of, method of reduction	424
Fermenting	

I N D E X.

461

	Pag.
Fermenting cataplasms, efficacy in mortification	386
Fistula in ano, method of curing by means of a lead wire	62
Fluid deposited in cells, conjectures respecting for- mation	66
Fothergill, Dr John, donation to the College of Phy- sicians at Edinburgh	447
Fougeroux, M. Petrole de Parme	153
Fynney, Mr. history of an imperforate hymen	194

G

Gahn, Dr Henry, account of making phosphorus	94
Garden, Dr, account of the effects of the ashes of to- bacco	330
Gauthier, M. dissertation sur l'usage des caustiques	111
Glandular secretion, dissertation on	63
Gordon, Robert, account of deafness cured by saliva- tion	81

H

Hallenberg, George, dissertation on the dulcamara	15
Hamilton, Dr James, elected physician to the Royal Infirmary at Edinburgh	447
Harwood, Edward, of temperance	109
Haygath, Dr, observations on the flowers of zinc	212
Heberden, Dr William, account of the angina pectoris	380
Hendy, Dr James, dissertation on glandular secretion	63
Hewson, Mr William, experimental inquiries, part 2d	32
——— account of the red particles of the blood	87

Hill

	Pag.
Hill, Mr James, account of an anomalous tumour	313
Hope, Dr John, botanical lectures	449
Hunter, Dr William, anatomy of the gravid uterus	107
——— anatomy of the uterus	227
Hunter, Mr John, account of air receptacles in birds	53
——— his opinion respecting the cause of inflammation and swelling from blood-letting	430
——— opinion of the puerperal fever	322
Hunter, Dr John, de hominum varietatibus	367
Hymen imperforate, history of	194

I

James, Dr, remarks on his powder	116
Indians, state of their medicine	263
Infirmary at Edinburgh, account of patients admitted	98
Inflammable air, observations on	177
Insects discharged from the uterus during menstruation	86

K

Kirkland, Dr Thomas, on child-bed fevers	124
--	-----

L

Laplanders, account of their diseases	272
Lavoisier, memoire sur le nature de l'Eau	158
Lead, preparations of, their external use	199
Leaden wire, its use in the cure of the fistula in ano	62
Le Roy, M. reflexions sur les areometres	358
Lettsome, Dr John Coakley, medical memoirs	280
Locked jaw, with uncommon symptoms	305

Lovett,

I N D E X.

463

	Pag.
Lovett, R. electrical philosopher	109
De Luc. J. A. recherches sur les modifications de l'atmosphere, tom 2d	25
Lungs, means of inflating by blowing into the nostril	251
Lungs of birds, their free communication with air receptacles in other parts	56
Lymph, experiments on	34
Lymphatic system, description of	32
Lymphatics, proof of their absorbent power	43

M

Majault, M. dissertation on the fistula in ano	61
Medical society at Edinburgh, foundation of a build- ing for their use	217
Minvielle, M. remarques critiques	137
Monro, Dr Alexander, observations on the means of inflating the lungs	250
Moodie, Dr James, history of a case of locked jaw	304
Montin, Lars, de medicina Laponum Lulensium	272
Morand, M. recherches sur conformation monstrueuse de doigts	165
Motion, division into tonic and muscular	143
Mucus over muscular fibres, its resemblance to the substance of the nerves	126

N

Nerves, of motion insensible to ordinary actions of the human body	10
Nerves, how rendered ropy	125
Nervous palsy, causes of	11
————— method of cure	12

Night-

	Pag.
Night-shade, dissertation on	15
Nitrous air, observations on	171

O

Odier, Dr Louis, observations on the flowers of zinc	191
Ophthalmia successfully treated by an emetic	411
Opium, good effects in mortification of the toes	350
——— speculations on	283

P

Palsy, division of	11
Parr, Dr, case of angina pectoris	213
Percival, Dr Thomas, observations on the external use of the preparations of lead	199
——— case of angina pectoris	181
Perebom, Cor. dissertatio de paralyfi nervea	9
Periods in diseases, of irritation, maturation, and eva- cuation	147
Peyrilhe, Ber. dissertatio de cancro	388
Petrole de Parme, memoire sur	153
Philadelphia, society for inoculation	104
Phips, Constantine, voyage towards the North Pole	108
Phosphorus, method of preparing from animal bones	94
Poisons, when to be cured by extirpation of the part	45
Police, board of in Scotland, extract from their jour- nals concerning the recovery of drowned persons	206
Polypi of the nose, observations on	347
Portal, M. observations sur la structure des parties de la generation	351
——— remarque sur la structure du canal tho- racique	363
Portal,	

	Pag.
Portal, M. observations sur les effets des vapeurs mephitiques	245
——— rapport sur la mort du Sieur le Maire	111
Pott, Percival, chirurgical observations	343
Power, Mr, account of the effects of fermenting ca- taplasms	385
Priestley, Dr Joseph, observations on different kinds of air	168
Pringle, Andrew Esq; anecdotes of	445
Pus, proof that it does not arise from a fermentative process	69
—— secreted from exhalant arteries without ulcera- tion	71
Putrid serum, in what respects different from pus	71

R

Rabies canina, history of	290
Rectum, a tumour obstructing it perforated	419
Roux, M. letter a concernant la remede antivene- rien de M. Lafont	110
Rowley, William, letter to Dr Hunter	109
Ruptures, observations on	349
Rush, Benjamin, oration on the natural history of medicine among the Indians	262
Rush, Dr, observations on the flowers of zinc	102

S.

Saturnine water, it effects in a scalded arm	73
Saunders, Dr James, remarks on the Ormskirk me- dicine for canine madness	332

Saunders,

	Pag.
Saunders, Dr James, account of the effects of electricity	394
Scalded arm, pain of, removed by saturnine water	73
Seton in the side, effects from	422
Simmons, S. F. account of stones discharged thro'	
a fistulous sore in the loins	51
Smith, John, account of convulsions from grief	316
Soap lees, effect on the nerves	125
Solar spots; observations on	46
below the sun's spherical surface	49
Speilman, Jac. instituti ones materiae medicae	110
Spleen, use in forming the red particles of the blood	91
Stone in the uterus, account of	58
Stone, method of cure by injection	333
Stones voided through a sore in the loins	51
Stramonium, dissertation on its use in convulsive	
diseases	18
Sue, M. elements de chirurgie	110
Surgeons, college of at Edinburgh, their grant to the	
medical society	217
Sympathy of nerves, observations on	127
T.	
Teeth, account of a new set after sixty years of age	105
Thouvenel, memoire chymique	110
Thymus, use in forming the red particles of the	
blood	91
Tobacco-ashes, efficacy in dropsy	331
Toes, remarks on mortification of	351
Transactions medical, observations from	379
Transudation, objections to	36

Uterine

Pag.

U.

Uterine irritability, its influence in puerperal fevers	131
Uterus, anatomy of	223

V.

Vertebrae, found dissolved upon dissection	83
Veins, effects of inflammation on their internal surface	432
Veins, objections against the supposition of their being absorbents	39
Vegetable air, experiments on	216
Vapour from charcoal, appearances on the dissection of those suffocated by it	256
Van Swieten, Gerard, commentaries on Boerhaave's aphorisms	107

W.

Walsh, John, Esq; obtains the prize medal of the royal society	106
Water discharged from the vagina during pregnancy	187
Wedenberg, Adolph, dissertation on the stramonium	18
White, Mr William, observations on Dr James's powder	108
——— observations on the medical virtues of lead	72
——— observations on antimony	116
Wilson, Dr Alexander, observations on solar spots	46
Wilson, Mr Benjamin, observations on lightning	108

Wright,

Wright, Mr William, operation on a tumour in the
rectum

419

Y.

Young, Dr Thomas, lectures on midwifery

449

Z.

Zinc, flowers of, tests of their quality

213

Zinc, flowers of, observations on

191



W.

White, John, Esq. obtains the prize medal of the

106

Royal Society

White, John, Esq. obtains the prize medal of the

107

Royal Society

White, Mr William, observations on Dr James's

108

powder

White, Mr William, observations on the medical virtues of lead

109

observations on anatomy

White, Dr Alexander, observations on John's

110

observations on anatomy

White, Mr Benjamin, observations on lightning

111

observations on lightning

